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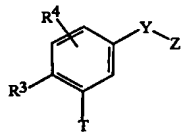
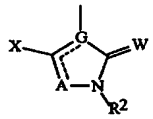
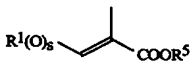
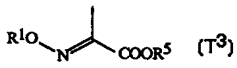
(54) Title: FUNGICIDAL CYCLIC AMIDES


(I)


(T^1)


(T^2)


(T^3)


(T^4)

(57) Abstract

Compounds of Formula (I), and their *N*–oxides and agriculturally suitable salts, are disclosed which are useful as fungicides and arthropodicides wherein T is (T^1), (T^2), (T^3), or (T^4); YZ is a group consisting of (a) 3 or more atoms independently selected from the group C, N, O, S, Si and Ge, provided that at least 2 of said atoms are C, and (b) additional atoms selected from H, F, Cl, Br and I; R^3 is halogen, CF_3, C_1–C_3 alkyl or C_1–C_3 alkoxy; R^4 is H, halogen, CF_3, C_1–C_3 alkyl or C_1–C_3 alkoxy; and A, G, W, X, R^1, R^2, R^5, R^6 and s are as defined in the disclosure. Also disclosed are compositions containing the compounds of Formula (I), a method for controlling plant diseases caused by fungal plant pathogens which involves applying an effective amount of a compound of Formula (I), a method for controlling arthropods which involves contacting the arthropods or their environment with an effective amount of a compound of Formula (I), and compounds of Formula (II) as defined in the disclosure and use thereof to produce compounds of Formula (I).

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TITLE
FUNGICIDAL CYCLIC AMIDES

BACKGROUND OF THE INVENTION

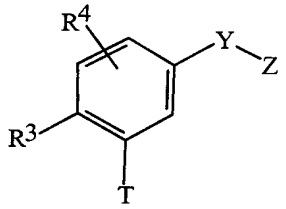
This invention relates to certain fungicidal cyclic amides, their *N*-oxides, agriculturally suitable salts and compositions, and methods of their use as fungicides and arthropodicides.

The control of plant diseases caused by fungal plant pathogens is extremely important in achieving high crop efficiency. Plant disease damage to ornamental, vegetable, field, cereal, and fruit crops can cause significant reduction in productivity and thereby result in increased costs to the consumers. The control of arthropod pests is also extremely important in achieving high crop efficiency. Arthropod damage to growing and stored agronomic crops can cause significant reduction in productivity and thereby result in increased costs to the consumer. The control of arthropod pests in forestry, greenhouse crops, ornamentals, nursery crops, stored food and fiber products, livestock, household, and public and animal health is also important. Many products are commercially available for these purposes, but the need continues for new compounds which are more effective, less costly, less toxic, environmentally safer or have different modes of action.

European Patent Application EP-A-178,826, U.S. Patent No. 5,194,662 and U.S. Patent No. 5,286,750 disclose certain meta substituted compounds and their use as fungicides.

SUMMARY OF THE INVENTION

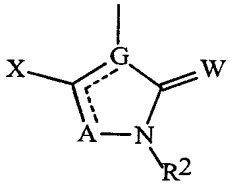
This invention is directed to compounds of Formula I including all geometric and stereoisomers, *N*-oxides, and agriculturally suitable salts thereof, agricultural compositions containing them and their use as fungicides and arthropodicides:



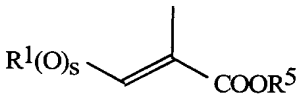
I

wherein

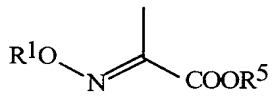
T is



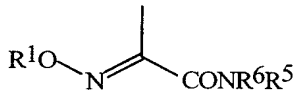
T^1 ,



T^2 ,



T3 or



T4 ;

X is OR^1, $S(O)_mR^1$ or halogen;

A is O, S, N, NR^5 or CR^7;

G is C or N; provided that when G is C, A is O, S or NR^5 and the floating double bond is attached to G; and when G is N, A is N or CR^7 and the floating double bond is attached to A;

W is O or S;

YZ is a group consisting of (a) 3 or more atoms independently selected from the group C, N, O, S, Si and Ge, provided that at least 2 of said atoms are C, and (b) additional atoms selected from H, F, Cl, Br and I;

R^1 is C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_2-C_4 alkylcarbonyl or C_2-C_4 alkoxycarbonyl;

R^2, R^5 and R^6 are each independently selected from the group H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_2-C_4 alkylcarbonyl and C_2-C_4 alkoxycarbonyl;

R^3 is halogen, CF_3, C_1-C_3 alkyl or C_1-C_3 alkoxy;

R^4 is H, halogen, CF_3, C_1-C_3 alkyl or C_1-C_3 alkoxy;

R^7 is H, halogen or methyl;

m is 0, 1 or 2; and

s is 0 or 1;

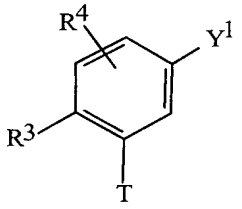
provided that

(a) when T is T^1, G is N, A is N, X is $S(O)_mR^1$ and m is 0; then the combination of Y and Z is other than alkyl, haloalkyl or alkoxy;

(b) when T is T^1, G is C and A is NR^5; then the combination of Y and Z is other than alkyl or alkoxy; and

(c) when T is T^1 and R^3 is halogen, then R^4 is hydrogen.

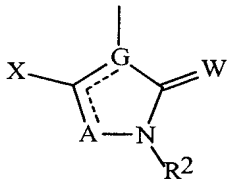
This invention also provides compounds of Formula II including all geometric and stereoisomers and their use as intermediates for the preparation of the fungicides and arthropodicides of Formula I wherein



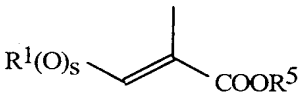
II

wherein

T is



T1 ,



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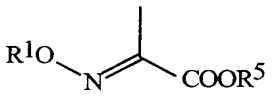
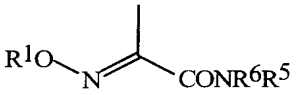


T3 or



T4 ;

X is OR^1, $S(O)_mR^1$ or halogen;

A is O, S, N, NR^5 or CR^7;

G is C or N; provided that when G is C, A is O, S or NR^5 and the floating double bond is attached to G; and when G is N, A is N or CR^7 and the floating double bond is attached to A;

W is O or S;

Y^1 is OH, SH, OSO_2CH_3, OSO_2(4-CH_3-Ph), CHO, $CH(R^{11})OH$, $CH(R^{11})Cl$, $CH(R^{11})Br$, $CH(R^{11})I$, $CH(R^{11})OSO_2CH_3$ or $CH(R^{11})OSO_2$(4-CH_3-Ph);

R^1 is C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_2-C_4 alkylcarbonyl or C_2-C_4 alkoxycarbonyl;

R^2, R^5 and R^6 are each independently selected from the group H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_2-C_4 alkylcarbonyl and C_2-C_4 alkoxycarbonyl;

R^3 is halogen, CF_3, C_1-C_3 alkyl or C_1-C_3 alkoxy;

R^4 is H, halogen, CF_3, C_1-C_3 alkyl or C_1-C_3 alkoxy;

R^7 is H, halogen or methyl;

R^{11} is H, C_1-C_3 alkyl or cyclopropyl;

m is 0, 1 or 2; and

s is 0 or 1;

provided that when A is N, G is N, X is $S(O)_mR^1$ and m is 0, then Y^1 is other than haloalkyl.

DETAILS OF THE INVENTION

In the above recitations, the term "alkyl", used in the compound words, such as, "alkylthio", "haloalkylthio", "alkylsulfinyl" and "alkylsulfonyl" includes straight-chain or branched alkyl, such as, methyl, ethyl, *n*-propyl, *i*-propyl, or the different butyl, pentyl or hexyl isomers. The term "alkyl", used alone or in the compound word "haloalkyl" includes straight-chain or branched alkyl, such as, methyl, ethyl, *n*-propyl, *i*-propyl, or the different butyl, pentyl, hexyl, heptyl, octyl, nonyl and decyl isomers. "Alkenyl" includes straight-chain or branched alkenes such as vinyl, 1-propenyl, 2-propenyl and the different butenyl, pentenyl and hexenyl isomers. "Alkenyl" also includes polyenes such as 1,2-propadienyl and 2,4-hexadienyl. "Alkynyl" includes straight-chain or branched alkynes such as ethynyl, 1-propynyl, 2-propynyl and the different butynyl, pentynyl and hexynyl isomers. "Alkynyl" can also include moieties comprised of multiple triple bonds such as 2,5-hexadiynyl.

"Alkoxy" includes, for example, methoxy, ethoxy, *n*-propyloxy, isopropyloxy and the different butoxy, pentoxy and hexyloxy isomers. "Alkylthio" includes branched or straight-chain alkylthio moieties such as methylthio, ethylthio, and the different propylthio, butylthio, pentylthio and hexylthio isomers. "Alkylsulfinyl" includes both enantiomers of an alkylsulfinyl group. Examples of "alkylsulfinyl" include $CH_3S(O)$, $CH_3CH_2S(O)$, $CH_3CH_2CH_2S(O)$, $(CH_3)_2CHS(O)$ and the different butylsulfinyl, pentylsulfinyl and hexylsulfinyl isomers. Examples of "alkylsulfonyl" include $CH_3S(O)_2$, $CH_3CH_2S(O)_2$, $CH_3CH_2CH_2S(O)_2$, $(CH_3)_2CHS(O)_2$ and the different butylsulfonyl, pentylsulfonyl and hexylsulfonyl isomers. "Cycloalkyl" includes, for example, cyclopropyl, cyclobutyl, cyclopentyl, and cyclohexyl.

The term "halogen", either alone or in compound words such as "haloalkyl", includes fluorine, chlorine, bromine or iodine. Further, when used in compound words such as "haloalkyl", said alkyl may be partially or fully substituted with halogen atoms which may be the same or different. Examples of "haloalkyl" include F_3C, $ClCH_2$, CF_3CH_2 and CF_3CCl_2. The terms "haloalkenyl", "haloalkynyl", "haloalkoxy", "haloalkylthio", and the like, are defined analogously to the term "haloalkyl". Examples of "haloalkenyl" include $(Cl)_2C=CHCH_2$ and $CF_3CH_2CH=CHCH_2$. Examples of "haloalkynyl" include $HC\equiv CCHCl$, $CF_3C\equiv C$, $CCl_3C\equiv C$ and $FCH_2C\equiv CCH_2$. Examples of "haloalkoxy" include CF_3O, CCl_3CH_2O, $HCF_2CH_2CH_2O$ and CF_3CH_2O. Examples of "haloalkylthio" include CCl_3S, CF_3S, CCl_3CH_2S and $ClCH_2CH_2CH_2S$.

Examples of Z include C_1-C_{10} alkyl; C_3-C_8 cycloalkyl; phenyl; naphthalenyl; anthracenyl; phenanthrenyl; 1*H*-pyrrolyl; furanyl; thienyl; 1*H*-pyrazolyl; 1*H*-imidazolyl;

isoxazolyl; oxazolyl; isothiazolyl; thiazolyl; 1*H*-1,2,3-triazolyl; 2*H*-1,2,3-triazolyl; 1*H*-1,2,4-triazolyl; 4*H*-1,2,4-triazolyl; 1,2,3-oxadiazolyl; 1,2,4-oxadiazolyl; 1,2,5-oxadiazolyl; 1,3,4-oxadiazolyl; 1,2,3-thiadiazolyl; 1,2,4-thiadiazolyl; 1,2,5-thiadiazolyl; 1,3,4-thiadiazolyl; 1*H*-tetrazolyl; 2*H*-tetrazolyl; pyridinyl; pyridazinyl; pyrimidinyl; pyrazinyl; 1,3,5-triazinyl; 1,2,4-triazinyl; 1,2,4,5-tetrazinyl; 1*H*-indolyl; benzofuranyl; benzo[*b*]thiophenyl; 1*H*-indazolyl; 1*H*-benzimidazolyl; benzoxazolyl; benzothiazolyl; quinolinyl; isoquinolinyl; cinnolinyl; phthalazinyl; quinazolinyl; quinoxalinyl; 1,8-naphthyridinyl; pteridinyl; 2,3-dihydro-1*H*-indenyl; 1,2,3,4-tetrahydronaphthalenyl; 6,7,8,9-tetrahydro-5*H*-benzocycloheptenyl; 5,6,7,8,9,10-hexahydrobenzocyclooctenyl; 2,3-dihydro-3-oxobenzofuranyl; 1,3-dihydro-1-oxoisobenzofuranyl; 2,3-dihydro-2-oxobenzofuranyl; 3,4-dihydro-4-oxo-2*H*-1-benzopyranyl; 3,4-dihydro-1-oxo-1*H*-2-benzopyranyl; 3,4-dihydro-3-oxo-1*H*-2-benzopyranyl; 3,4-dihydro-2-oxo-2*H*-1-benzopyranyl; 4-oxo-4*H*-1-benzopyranyl; 2-oxo-2*H*-1-benzopyranyl; 2,3,4,5-tetrahydro-5-oxo-1-benzoxepinyl; 2,3,4,5-tetrahydro-2-oxo-1-benzoxepinyl; 2,3-dihydro-1,3-dioxo-1*H*-isoindolyl; 1,2,3,4-tetrahydro-1,3-dioxoisoquinolinyl; 3,4-dihydro-2,4-dioxo-2*H*-1,3-benzoxazinyl; 2-oxo-1,3-benzodioxyl; 2,3-dihydro-1,1,3-trioxo-1,2-benzisothiazolyl; 9*H*-fluorenyl; azulenyl; and thiazolo[2,3-*c*]-1,2,4-triazolyl; each optionally substituted with R^9 and optionally substituted with one or more R^{10}.

The total number of carbon atoms in a substituent group is indicated by the "C_i-C_j" prefix where i and j are numbers from 1 to 10. For example, C_1-C_3 alkylsulfonyl designates methylsulfonyl through propylsulfonyl. Examples of "alkylcarbonyl" include $C(=O)CH_3$, $C(=O)CH_2CH_2CH_3$ and $C(=O)CH(CH_3)_2$. Examples of "alkoxycarbonyl" include $CH_3OC(=O)$, $CH_3CH_2OC(=O)$, $CH_3CH_2CH_2OC(=O)$, $(CH_3)_2CHOC(=O)$ and the different butoxycarbonyl isomers.

When a group contains a substituent which can be hydrogen, for example R^2 or R^7, then, when this substituent is taken as hydrogen, it is recognized that this is equivalent to said group being unsubstituted. When a group is optionally substituted with a substituent, for example with R^{10}, then, when the group is not substituted with that substituent, it is recognized that this is equivalent to said group having a hydrogen substituent.

Compounds of this invention can exist as one or more stereoisomers. The various stereoisomers include enantiomers, diastereomers, atropisomers and geometric isomers. One skilled in the art will appreciate that one stereoisomer may be more active and/or may exhibit beneficial effects when enriched relative to the other stereoisomer(s) or when separated from the other stereoisomer(s). Of note are compounds where R^3 is other than fluorine and R^4 is other than hydrogen and fluorine. (See, e.g., U.S. Provisional Patent Application Serial No. 60/057917 filed September 4, 1997, which is hereby incorporated by reference in its

entirety.) Additionally, the skilled artisan knows how to separate, enrich, and/or to selectively prepare said stereoisomers. Accordingly, the present invention comprises compounds selected from Formula I and agriculturally suitable salts thereof. The compounds of the invention may be present as a mixture of stereoisomers, individual stereoisomers, or as an optically active form.

The salts of the compounds of the invention include acid-addition salts with inorganic or organic acids such as hydrobromic, hydrochloric, nitric, phosphoric, sulfuric, acetic, butyric, fumaric, lactic, maleic, malonic, oxalic, propionic, salicylic, tartaric, 4-toluenesulfonic or valeric acids.

Of note are compounds where R^4 is hydrogen.

Preferred compounds for reasons of better activity and/or ease of synthesis are:

Preferred 1. Compounds of Formula I above, and agriculturally suitable salts thereof, wherein:

Y is -O-, $-(CH_2)_rO-$, $-O(CH_2)_r-$, $-CHR^{11}O-N=C(R^8)-$, a direct bond, $-(CH_2)_r-$, $-C(R^{11})=C(R^{11})-$, $-(CH_2)_rS(O)_m-$, $-C(R^8)=N-O-CHR^{11}-$, $-CHR^{11}SC(R^8)=N-$, $-C(R^{11})=N-N=C(R^{11})-$, $-CHR^{11}O-N=C(R^8)CH_2S-$, $-CHR^{11}O-N=C(R^8)CH_2O-$, $-C(R^{11})=N-N(CH_3)-$, $-CHR^{11}OC(R^8)=N-$, $-CHR^{11}OC(=S)NR^{11}-$, $-CHR^{11}SC(=S)NR^{11}-$, $-S(CHR^{11})_r-$, or $-CHR^{11}O-N=C(R^{11})C(=N-OR^{11})-$; and the directionality of the Y linkage is defined such that the moiety depicted on the left side of the linkage is bonded to the phenyl ring having the R^3 and R^4 substituents and the moiety on the right side of the linkage is bonded to Z;

Z is independently selected from:

i) C_1-C_{10} alkyl, C_1-C_{10} haloalkyl or phenyl each optionally substituted with R^9 and optionally substituted with one or more R^{10};

ii) a ring selected from 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10};

iii) a naphthalene ring optionally substituted with R^9 and optionally substituted with one or more R^{10}; and

iv) a tetrahydronaphthalene ring optionally substituted with R^9 and optionally substituted with one or more R^{10};

R^8 is H, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 alkylthio, C_1-C_3 haloalkyl, C_2-C_3 alkenyl, C_2-C_3 alkynyl, cyclopropyl, cyano or NH_2;

R^9 is halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_1-C_6 alkylthio; C_1-C_6 haloalkylthio; C_1-C_6 alkylsulfinyl; C_1-C_6 alkylsulfonyl; C_3-C_6 cycloalkyl; trimethylsilyl; $C(=O)R^{14}$; C_2-C_6 alkynyl substituted with trimethylsilyl or C_3-C_6 cycloalkyl; or phenyl or phenoxy, each phenyl or phenoxy optionally substituted with R^{12} and optionally substituted with one or more R^{13};

each R^{10} is halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, cyano or thiocyanato; or

R^9 and an R^{10} when attached to adjacent carbon atoms can be taken together as $-CH_2CH_2O-$ or $-OCH_2CH_2O-$;

each R^{11} is independently H, C_1-C_3 alkyl or cyclopropyl;

R^{12} is halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio, C_1-C_6 alkylsulfinyl, C_1-C_6 alkylsulfonyl, nitro, $C(=O)R^{14}$ or C_3-C_6 cycloalkyl;

each R^{13} is halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, cyano or thiocyanato;

R^{14} is H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy; and

r is 1, 2, 3 or 4.

Preferred 2. Compounds of Preferred 1 wherein:

T is T^1;

R^3 is methyl; and

Z is phenyl each optionally substituted with R^9 and optionally substituted with one or more R^{10}; or a 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10}

Preferred 3. Compounds of Preferred 2 wherein:

A is N;

G is N;

W is O;

X is OR^1;

R^1 is methyl; and

R^2 is methyl.

Preferred 4. Compounds of Preferred 1 wherein:

T is T^2;

R^3 is methyl; and

Z is phenyl each optionally substituted with R^9 and optionally substituted with one or more R^{10}; or a 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10}

Preferred 5. Compounds of Preferred 1 wherein:

T is T^3;

R^3 is methyl; and

Z is phenyl each optionally substituted with R^9 and optionally substituted with one or more R^{10}; or a 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10}

Preferred 6. Compounds of Preferred 1 wherein:

T is T^4;

R^3 is methyl; and

Z is phenyl each optionally substituted with R^9 and optionally substituted with one or more R^{10}; or a 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10}

Most preferred are compounds of Preferred 6 selected from the group:

α-(methoxyimino)-*N*,2-dimethyl-5-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]benzeneacetamide and

α-(methoxyimino)-*N*,2-dimethyl-5-[[[[1-[3-(trifluoromethoxy)phenyl]ethylidene]amino]oxy]methyl]benzeneacetamide.

Of note are compounds of Formula I wherein T is T^1 and R^4 is other than hydrogen. Of note are compounds of Formula I wherein Y is -O-, $-CH(R_{11})-N=C(R_8)-$, $-CH_2O-$, $-O(CH_2)_r-$ or $-CHR^{11}O-N=C(R^{11})C(=NOR^{11})-$. Of note are compounds of Formula I wherein Z is selected from the group 1,2,3,4-tetrahydrohnaphthalenyl; phenyl; naphthalenyl; 1*H*-pyrrolyl; furanyl; thienyl; 1*H*-pyrazolyl; 1*H*-imidazolyl; isoxazolyl; oxazolyl; isothiazolyl; thiazolyl; 1*H*-1,2,3-triazolyl; 2*H*-1,2,3-triazolyl; 1*H*-1,2,4-triazolyl; 4*H*-1,2,4-triazolyl; 1,2,3-oxadiazolyl; 1,2,4-oxadiazolyl; 1,2,5-oxadiazolyl; 1,3,4-oxadiazolyl; 1,2,3-thiadiazolyl; 1,2,4-thiadiazolyl; 1,2,5-thiadiazolyl; 1,3,4-thiadiazolyl; pyridinyl; pyridazinyl; pyrimidinyl; pyrazinyl; 1,3,5-triazinyl; and 1,2,4-triazinyl; each group optionally substituted with R^9 and optionally substituted with one or more R^{10}. Of particular note are compounds wherein Z is phenyl, thiazolyl, 1,2,4-thiadiazolyl, pyridinyl or pyrimidinyl each optionally substituted with R^9 and optionally substituted with one or more R^{10}.

This invention also provides compounds of Formula II including all geometric and stereoisomers which are useful as intermediates for the preparation of the fungicides and arthropodicides of Formula I. Of note are compounds of Formula II wherein Y^1 is OH, OSO_2CH_3, CHO, CH_2OH, CH_2Cl, CH_2Br, CH_2I or $CH_2OSO_2CH_3$. Of further note are compounds of Formula II wherein T is T^1, compounds of Formula II wherein T is T^2, compounds of Formula II wherein T is T^3 or compounds of Formula II wherein T is T^4. Of particular note are compounds of Formula II wherein T is T^1, G is N, A is N, X is OR^1 and R^3 is methyl.

This invention also relates to fungicidal compositions comprising fungicidally effective amounts of the compounds of the invention and at least one of a surfactant, a solid diluent or a liquid diluent. The preferred compositions of the present invention are those which comprise the above preferred compounds.

This invention also relates to a method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof, or to the plant seed or seedling, a fungicidally effective amount of the compounds of the invention (e.g., as a composition described herein). The preferred methods of use are those involving the above preferred compounds.

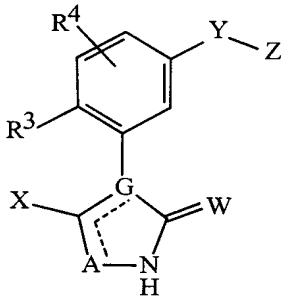
This invention also relates to arthropodicidal compositions comprising arthropodicidally effective amounts of the compounds of the invention and at least one of a surfactant, a solid diluent or a liquid diluent. The preferred compositions of the present invention are those which comprise the above preferred compounds.

This invention also relates to a method for controlling arthropods comprising contacting the arthropods or their environment with an arthropodicidally effective amount of the compounds of the invention (e.g., as a composition described herein). The preferred methods of use are those involving the above preferred compounds.

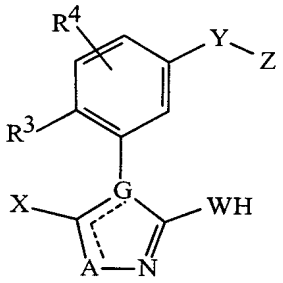
DETAILS OF THE SYNTHESIS

The compounds of Formula I can be prepared by one or more of the following methods and variations as described in Schemes 1-44. The definitions of T, A, G, W, X, Y, Y^1-Y^8, Z, R^1-R^{22}, m, r and s in the compounds of Formulae 1-61 below are as defined above in the Summary of the Invention or in the Schemes hereinafter. Compounds of Formulae Ia-Ir are various subsets of the compounds of Formula I, and all substituents for Formulae Ia-Ir are as defined above for Formula I.

One skilled in the art will recognize that some compounds of Formula I can exist in one or more tautomeric forms. For example, a compound of Formula I wherein T is T^1 and R^2 is H may exist as tautomer Ia or Ib, or both Ia and Ib. The present invention comprises all tautomeric forms of compounds of Formula I where T = T^1.



Ia



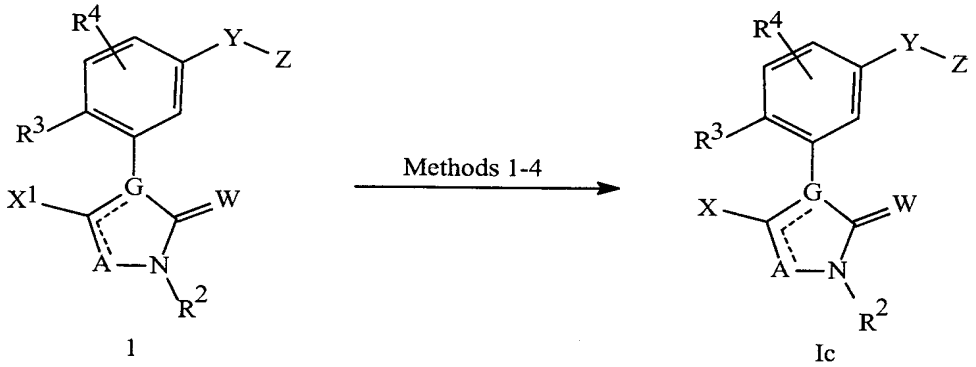
Ib

The compounds of Formula I where T = T^1 can be prepared as described below in Procedures 1) to 5). Procedures 1) to 4) describe syntheses involving construction of the heterocycle after the formation of the aryl moiety. Procedure 5) describes syntheses of the aryl moiety with the T-moiety already in place.

1) Alkylation Procedures

The compounds of Formula Ic, compounds of Formula I where T = T^1, are prepared by treating compounds of Formula 1 with an appropriate alkyl transfer reagent in an inert solvent with or without additional acidic or basic reagents or other reagents (Scheme 1). Suitable solvents are selected from the group consisting of polar aprotic solvents such as acetonitrile, *N,N*-dimethylformamide or dimethyl sulfoxide; ethers such as tetrahydrofuran, dimethoxyethane, or diethyl ether; ketones such as acetone or 2-butanone; hydrocarbons such as toluene or benzene; and halocarbons such as dichloromethane or chloroform.

Scheme 1



1

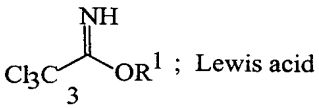
X^1 = OH or SH

Ic

X = OR^1 or SR^1

Method 1: U-CH=N_2 (U = H or $(CH_3)_3Si$)

2

Method 2: 

; Lewis acid

3

Method 3: $(R^1)_3O^+ BF_4^-$

4

Method 4: $(R^1)_2SO_4$; R^1OSO_2Q; or R^1-hal;

optional base

(hal = F, Cl, Br, or I)

(Q = C_1-C_6 alkyl, 4-CH_3-Ph or C_1-C_6 haloalkyl)

For example, compounds of Formula Ic, compounds of Formula I where T = T^1, can be prepared by the action of diazoalkane reagents of Formula 2 such as diazomethane (U = H) or trimethylsilyldiazomethane (U = $(CH_3)_3Si$) on compounds of Formula 1 (Method 1). Use of trimethylsilyldiazomethane requires a protic cosolvent such as methanol. For examples of these procedures, see *Chem. Pharm. Bull.* 1984, *32*, 3759.

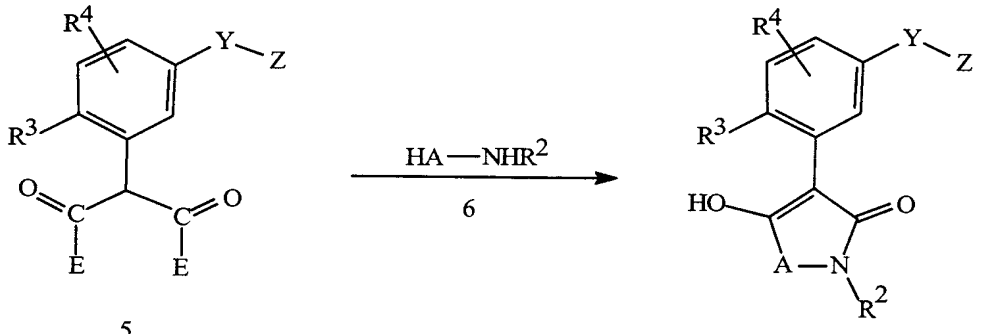
As indicated in Method 2, compounds of Formula Ic, compounds of Formula I where T = T^1, can also be prepared by contacting carbonyl compounds of Formula 1 with alkyl trichloroacetimidates of Formula 3 and a Lewis acid catalyst. Suitable Lewis acids include trimethylsilyl triflate and tetrafluoroboric acid. The alkyl trichloroacetimidates can be prepared from the appropriate alcohol and trichloroacetonitrile as described in the literature (J. Danklmaier and H. Hönig, *Synth. Commun.* 1990, *20*, 203).

Compounds of Formula Ic, compounds of Formula I where T = T^1, can also be prepared from compounds of Formula 1 by treatment with a trialkyloxonium tetrafluoroborate (e.g., Meerwein's salt) of Formula 4 (Method 3). The use of trialkyloxonium salts as powerful alkylating agents is well known in the art (see U. Schöllkopf, U. Groth, C. Deng, *Angew. Chem., Int. Ed. Engl.* 1981, *20*, 798).

Other alkylating agents which can convert compounds of Formula 1 to compounds of Formula Ic where T = T^1, are dialkyl sulfates such as dimethyl sulfate, haloalkyl sulfonates such as methyl trifluoromethanesulfonate, and alkyl halides such as iodomethane and propargyl bromide (Method 4). These alkylations can be conducted with or without additional base. Appropriate bases include alkali metal alkoxides such as potassium *tert*-butoxide, inorganic bases such as sodium hydride and potassium carbonate, pyridine, or tertiary amines such as triethylamine, 1,8-diazabicyclo[5.4.0]undec-7-ene (DBU), and triethylenediamine. See R. E. Benson, T. L. Cairns, *J. Am. Chem. Soc.* 1948, *70*, 2115 for alkylation examples using agents of this type.

Compounds of Formula 1a (compounds of Formula 1 wherein G = C, W = O and X^1 = OH) can be prepared by condensation of malonates or malonate derivatives of Formula 5 with an ambident nucleophile of Formula 6 (Scheme 2). The nucleophiles of Formula 6 are *N*-substituted hydroxylamines (HO-NHR^2) and substituted hydrazines ($HN(R^5)$-NHR^2). Examples of such nucleophiles are *N*-methylhydroxylamine and methylhydrazine. The malonate esters of Formula 5 (E = $O(C_1$-C_4 alkyl)) can be prepared by methods described hereinafter. The esters of Formula 5 can also be activated by first hydrolyzing the ester to form the corresponding carboxylic acid, and then converting the acid into the acid chloride (E = Cl) using thionyl chloride or oxalyl chloride, or into the acyl imidazole (E = 1-imidazolyl) by treating with 1,1'-carbonyldiimidazole.

Scheme 2



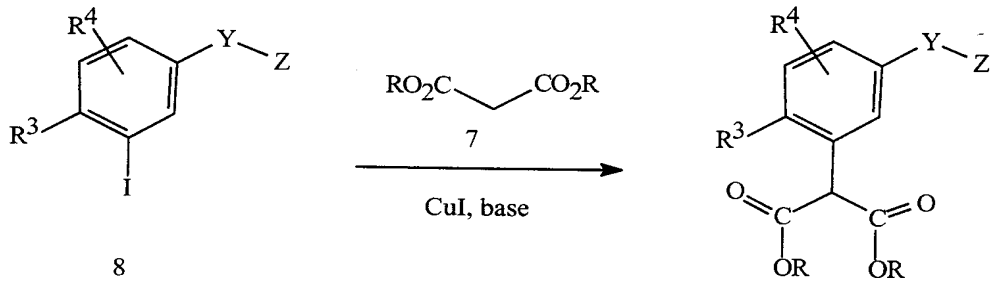
5

E = $O(C_1$-C_4 alkyl), Cl, 1-imidazolyl

1a

Esters of Formula 5a can be prepared from copper (I)-catalyzed reaction of malonate esters with substituted iodobenzenes of Formula 8 according to methods adapted from A. Osuka, T. Kobayashi and H. Suzuki, *Synthesis* 1983, *67*, and illustrated in Scheme 3.

Scheme 3



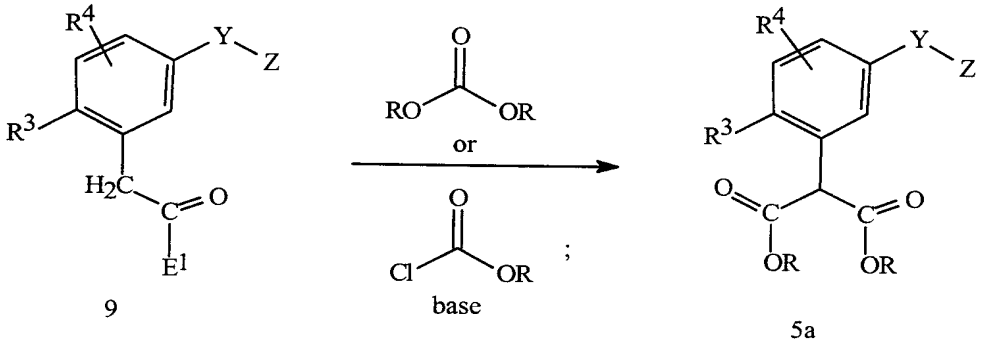
8

5a

R = C_1-C_4 alkyl

Additionally, the malonate esters of Formula 5a can be prepared by treating phenyl acetic acid esters of Formula 9a with a dialkyl carbonate or alkyl chloroformate in the presence of a suitable base such as, but not limited to, sodium metal and sodium hydride (Scheme 4). For example, see *J. Am. Chem. Soc.* 1928, *50*, 2758.

Scheme 4



9

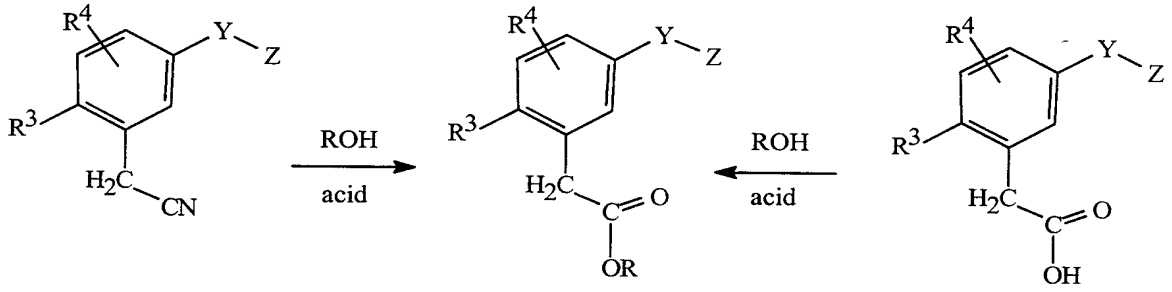
9a E^1 = OR

5a

R = C_1-C_4 alkyl

Esters of Formula 9a (compounds of Formula 9 wherein E^1 is OR) can be prepared from acid-catalyzed alcoholysis of phenyl acetonitriles of Formula 10 or by esterification of phenyl acetic acids of Formula 11 as illustrated in Scheme 5 (see *Org. Synth., Coll. Vol. I* 1941; 270).

Scheme 5

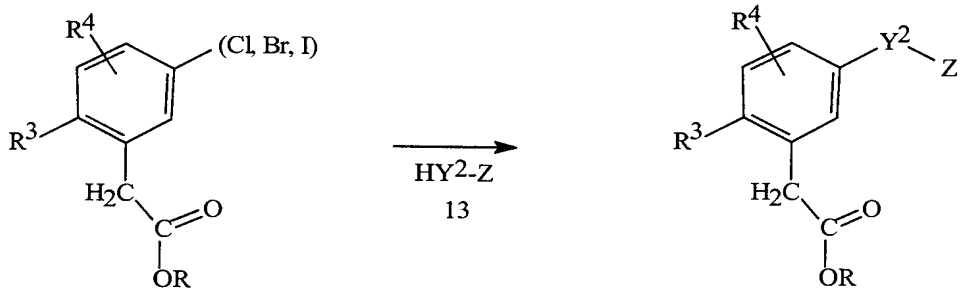


10 9a 11

R = C_1-C_4 alkyl

Phenyl acetic acid esters of Formula 9b (compounds of Formula 9a wherein Y is Y^2) can also be prepared by copper (I)-catalyzed condensation of phenyl halides of Formula 12 with compounds of Formula 13 as described in EP-A-307,103 and illustrated below in Scheme 6.

Scheme 6



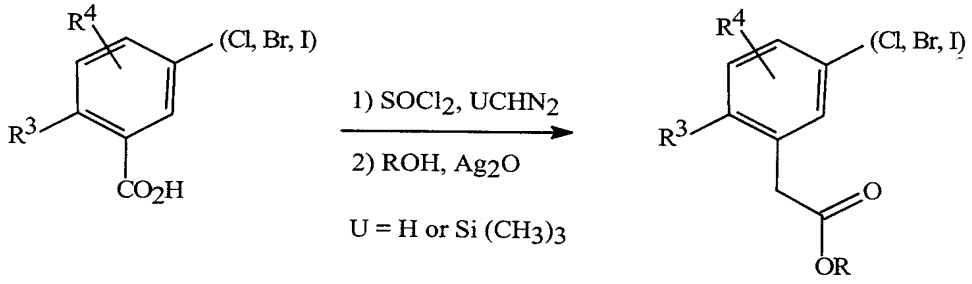
12 9b

R = C_1-C_4 alkyl

Y^2 = $-O-$, $-O(CH_2)_r-$, $-S(CHR^{11})_r-$

Compounds of Formula 12 can be prepared by the Arndt-Eistert synthesis starting from benzoic acids of Formula 14 as illustrated in Scheme 7, (see F. Arndt, B. Eistert 1935, *Ber.* *68*, 200; T. Aoyama, T. Shioiri, *Tetrahedron Letters* 1980, *21*, 4461). For example, treatment of benzoic acids of Formula 14 with a halogenating agent such as thionyl chloride followed by addition of an alkylating agent such as diazomethane yields an intermediate that can be quenched with R-OH in an appropriate solvent to afford the desired ester 12.

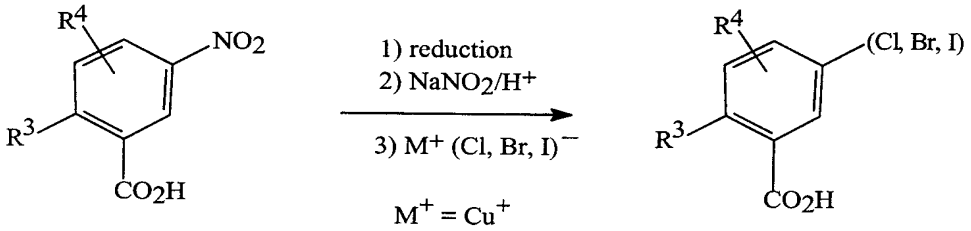
Scheme 7



14 12

Compounds of Formula 14 (Scheme 8) can be prepared from nitrobenzoic acids of Formula 15 by a modification of the Sandmayer Reaction as taught in S. Kanoh, H. Muramoto, N. Kobayashi, M. Motoi and H. Suda, *Bull. Chem. Soc. Jpn.* 1987, *60*, 3659; M. P. Doyle, *J. Org. Chem.* 1977, *42*, 2426 and March, J. *Advanced Organic Chemistry*; 4th ed., John Wiley: New York, 1992; 723. Nitrobenzoic acid of Formula 15 where $R^3 = CH_3$ and $R^4 = H$ is commercially available. Where $R^3 = R^4 = CH_3$ the compounds can be prepared by nitration and reduction of commercially available dimethylbenzoic acids as taught in A. N. Fugiwars, E. M. Acton, *Can J. Chem.* 1970, *48*, 1346.

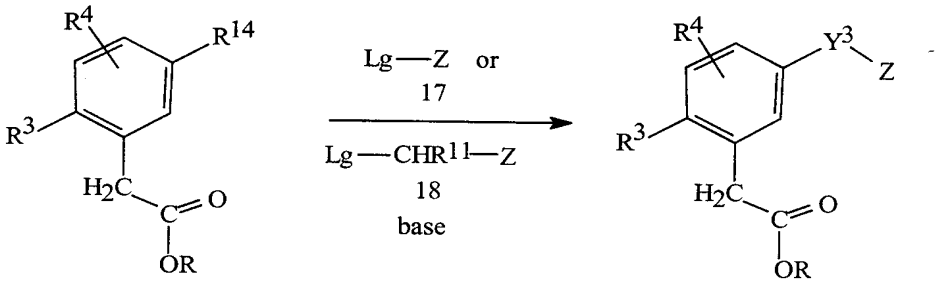
Scheme 8



15 14

Some esters of Formula 9c can also be prepared by forming the Y^3 bridge using conventional nucleophilic substitution chemistry (Scheme 9). Displacement of an appropriate leaving group (Lg) in electrophiles of Formula 17 or 18 with a nucleophilic ester of Formula 16 affords compounds of Formula 9c. A base, for example sodium hydride, is used to generate the corresponding alkoxide or thioalkoxide of the compound of Formula 16.

Scheme 9



16 9c

R = C_1-C_4 alkyl

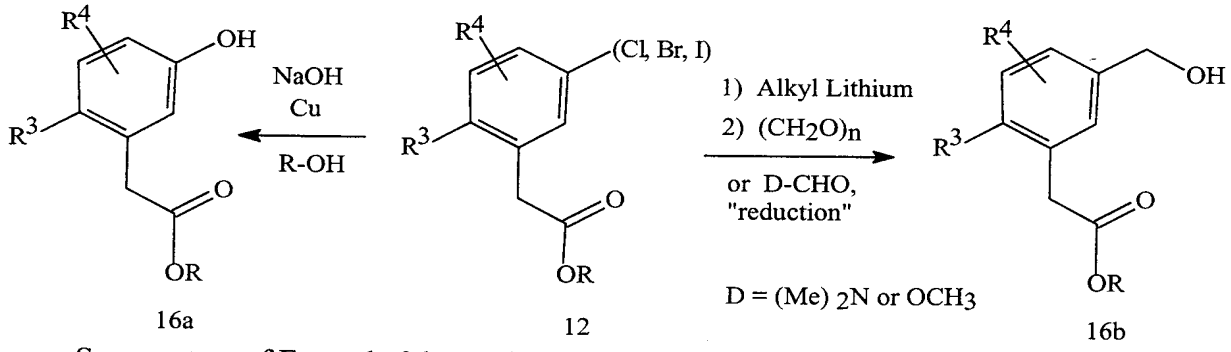
R^{14} = OH, SH, CH_2OH, CH_2SH

Y^3 = -O-, -OCH_2-, -$SCHR^{11}$-, -CH_2O-, -$CH_2S(O)_m$-

Lg = Br, Cl, I, OSO_2CH_3, OSO_2(4-Me-Ph)

Compounds of Formula 16 can be prepared from compounds of Formula 12 by methods taught in *Chem. Pharm. Bull.* 1985, *33* (12), 5184 or *J. Org. Chem.* 1988, *53* (2) 439. For example treatment of compounds of Formula 12 with a metal hydroxide, such as sodium hydroxide, in a polar protic solvent in the presence of a metal species such as copper yields compound 16a (compounds of Formula 16 where R^{14} is OH). Compounds of Formula 16b (compounds of Formula 16 where R^{14} is CH_2OH or CH_2SH) can be prepared by metal-halogen exchange in compounds of Formula 12 followed by quenching with the appropriate electrophile. For example, treatment of compounds of Formula 12 with a suitable alkyllithium such as *n*-butyllithium in an inert solvent such as ether or tetrahydrofuran (THF) followed by quenching with an electrophile such as paraformaldehyde would yield compound of Formula 16b (where R^{14} is CH_2OH), (see B. J. Wakefield *Organolithium Methods*; Academic Press: New York; 1988). Alternatively quenching the metalated species with a formaldehyde equivalent D-CHO (where D is $(CH_3)_2N$, or OMe) followed by reduction of the aldehyde with a suitable reducing agent yields compounds of Formula 16b. Examples of such reducing agents are sodium borohydride ($NaBH_4$), sodium cyanoborohydride ($NaCNBH_4$) and diisobutylaluminum hydride (DIBAL-H) (Scheme 10). Suitable inert solvents are methanol, ethanol, methylene chloride and tetrahydrofuran, (see M. Hudlicky, Reductions in Organic Chemistry; John Wiley & Sons: New York, 1986).

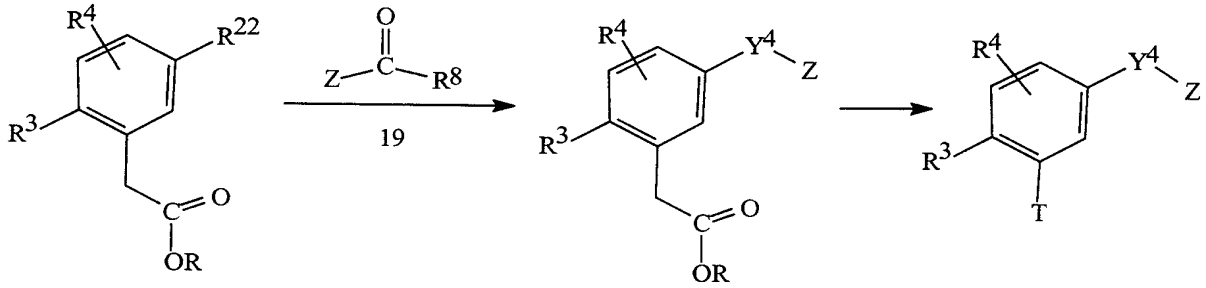
Scheme 10



16a 12 16b

Some esters of Formula 9d can also be prepared by forming the Y^4 bridge from substituted hydroxylamines 16d and carbonyl compounds 19. The hydroxylamines 16d are in turn prepared from esters 16c. Compounds of Formula 16c where the Lg is Br, Cl, I, OSO_2CH_3 or OSO_2(4-Me-Ph) can be prepared from compounds of Formula 16b, (see March, J. *Advanced Organic Chemistry*; 3rd ed., John Wiley: New York, 1985). This method has been described in EP-A-600,835 and is illustrated in Scheme 11. Esters of Formula 9d can be used to prepare compounds of Formula Id wherein T = T^2 or T^3 by methods described in EP-A-600,835.

Scheme 11



16c R^{22} = $CHR^{11}Lg$ 9d Id

16d R^{22} = $CHR^{11}ONH_2 \cdot HCl$

R = C_1-C_4 alkyl

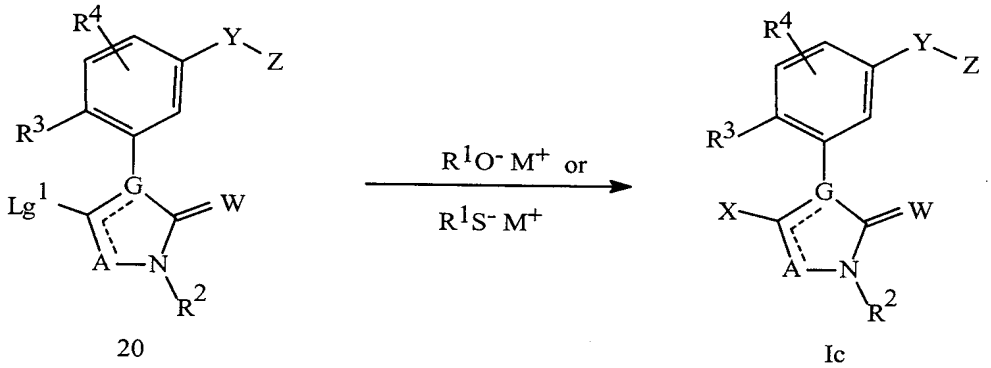
Y^4 = -$CHR^{11}ON{=}C(R^8)$-

T = T^2 or T^3

2) Displacement and Conjugate Addition/Elimination Procedures

Compounds of Formula Ic, compounds of Formula I where T = T^1, can also be prepared by reaction of Formula 20 compounds with alkali metal alkoxides ($R^1O^-M^+$) or alkali metal thioalkoxides ($R^1S^-M^+$) in a suitable solvent (Scheme 12). The leaving group Lg^1 in the amides of Formula 20 is any group known in the art to undergo a displacement reaction of this type. Examples of suitable leaving groups include chlorine, bromine, and sulfonyl and sulfonate groups. Examples of suitable inert solvents are *N,N*-dimethylformamide or dimethyl sulfoxide.

Scheme 12

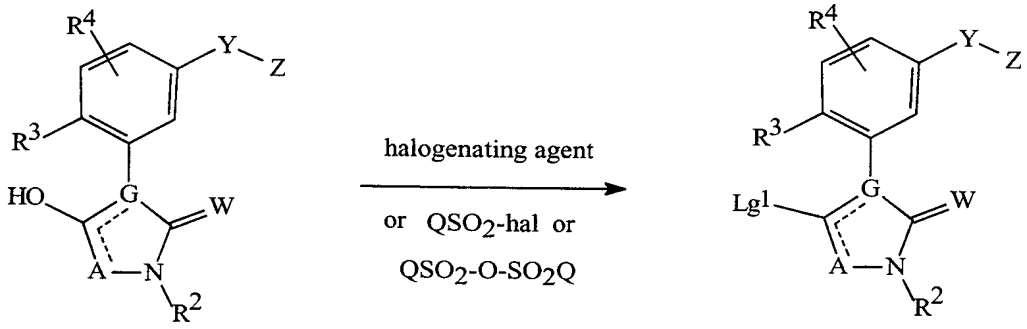


20 Ic

Lg^1 = Cl, Br, $-SO_2Q$, or $-OSO_2Q$
Q = C_1-C_6 alkyl or C_1-C_6 haloalkyl
M = K or Na
X = OR^1 or SR^1

Compounds of Formula 20a can be prepared from compounds of Formula 1b (compounds of Formula 1 wherein X^1 is OH) by reaction with halogenating agents such as thionyl chloride or phosphorus oxybromide to form the corresponding β-halo-substituted derivatives (Scheme 13). Alternatively, compounds of Formula 1b can be treated with an sulfonyl halide or haloalkylsulfonyl anhydride, such as methane sulfonyl chloride, *p*-toluenesulfonyl chloride, and trifluoromethanesulfonyl anhydride, to form the corresponding β-alkylsulfonate of Formula 20b. The reaction with the sulfonyl halides may be performed in the presence of a suitable base (e.g., triethylamine).

Scheme 13



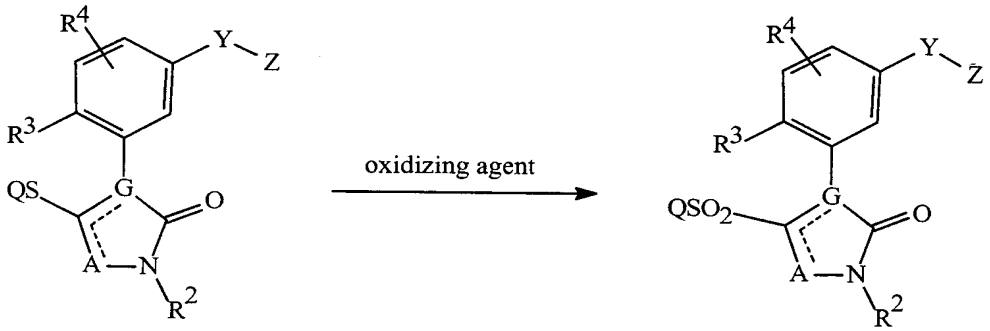
1b

20a Lg^1 = Cl or Br
20b Lg^1 = $-OSO_2Q$

Q = C_1-C_6 alkyl, 4-CH_3-Ph or C_1-C_6 haloalkyl
hal = Br, Cl or F

As illustrated in Scheme 14, sulfonyl compounds of Formula 20c (compounds of Formula 20 where Lg^1 is QSO_2-) can be prepared by oxidation of the corresponding thio compound of Formula 21 using well-known methods for the oxidation of sulfur (see Schrenk, K. in *The Chemistry of Sulphones and Sulphoxides*; Patai, S. et al., Eds.; Wiley: New York, 1988). Suitable oxidizing reagents include *meta*-chloro-peroxybenzoic acid, hydrogen peroxide and Oxone® ($KHSO_5$).

Scheme 14

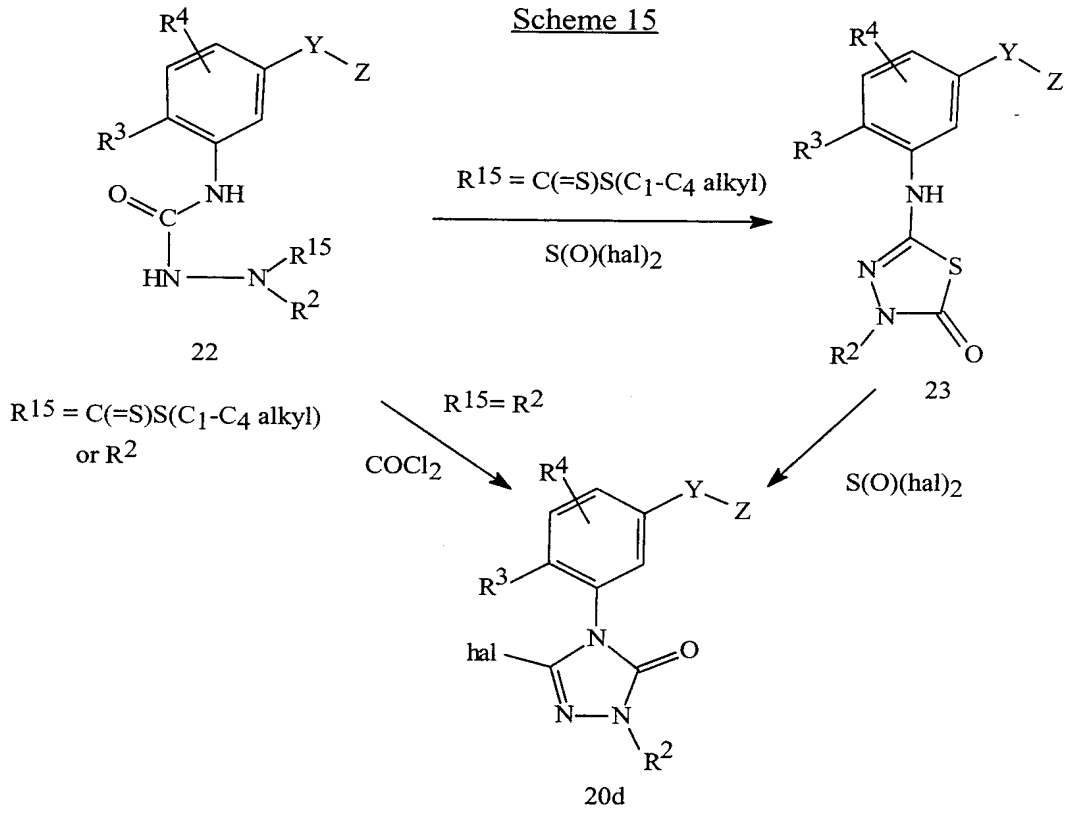


Q = C_1-C_6 alkyl or C_1-C_6 haloalkyl

Alternatively, halo-compounds of Formula 20d (compounds of Formula 20 wherein A = N, G = N, W = O and Lg^1 = halogen) can be prepared from hydrazides of Formula 22 as illustrated in Scheme 15. When R^{15} = C(=S)S(C_1-C_4 alkyl), the compound of Formula 22 is treated with excess of a thionyl halide such as thionyl chloride. The product formed first is the ring-closed compound of Formula 23 which can be isolated or converted *in situ* to the compound of Formula 20d; see P. Molina, A. Tárraga, A. Espinosa, *Synthesis* 1989, 923 for a description of this process.

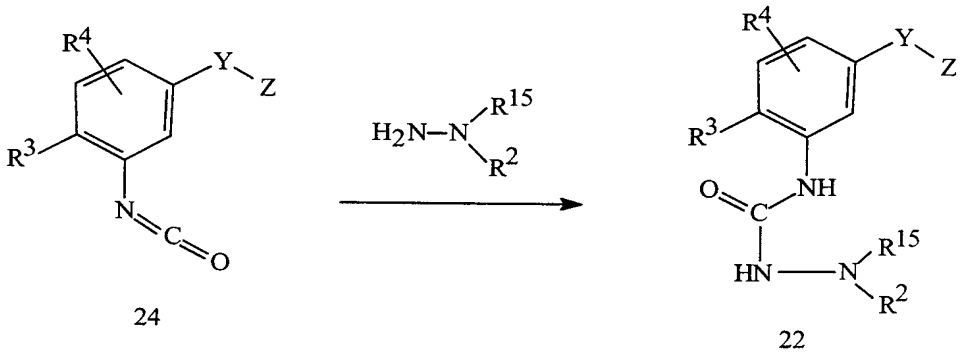
Alternatively, when R^{15} = R^2 as defined above, the hydrazide of Formula 22 is cyclized with phosgene to form the cyclic urea of Formula 20d wherein hal = Cl. This procedure is described in detail in *J. Org. Chem.* 1989, *54*, 1048.

Scheme 15



The hydrazides of Formula 22 can be prepared as illustrated in Scheme 16. Condensation of the isocyanate of Formula 24 with the hydrazine of Formula $H_2NNR^2R^{15}$ in an inert solvent such as tetrahydrofuran affords the hydrazide.

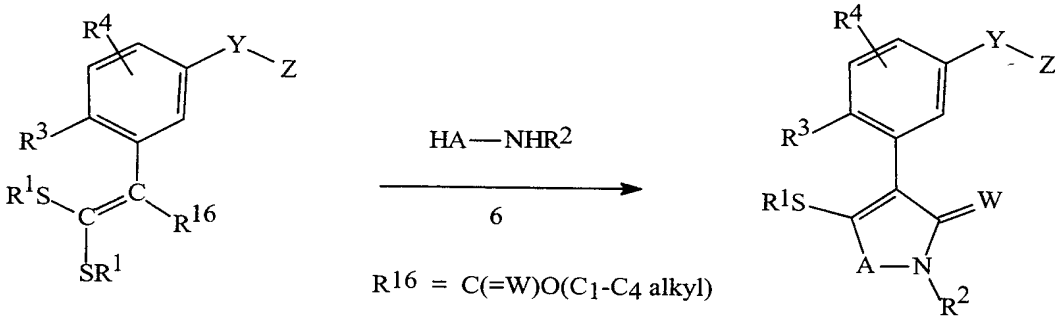
Scheme 16



3) Conjugate Addition/Cyclization Procedures

In addition to the methods disclosed above, compounds of Formula I wherein T is T^1, X = SR^1 and G = C (Formula Ie) can be prepared by treating a ketenedithioacetal of Formula 25 with an ambident nucleophile of Formula 6 (Scheme 17). The nucleophiles of Formula 6 are described above.

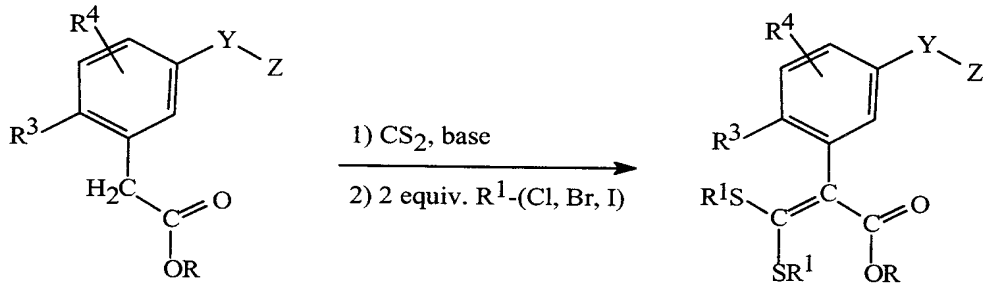
Scheme 17



25 Ie

Ketene dithioacetals of Formula 25a (compounds of Formula 25 wherein R^{16} is $CO_2(C_1\text{-}C_4$ alkyl)) can be prepared by condensing phenyl acetic acid esters of Formula 9a with carbon disulfide in the presence of a suitable base, followed by reaction with two equivalents of an R^1-halide, such as iodomethane or propargyl bromide (Scheme 18).

Scheme 18

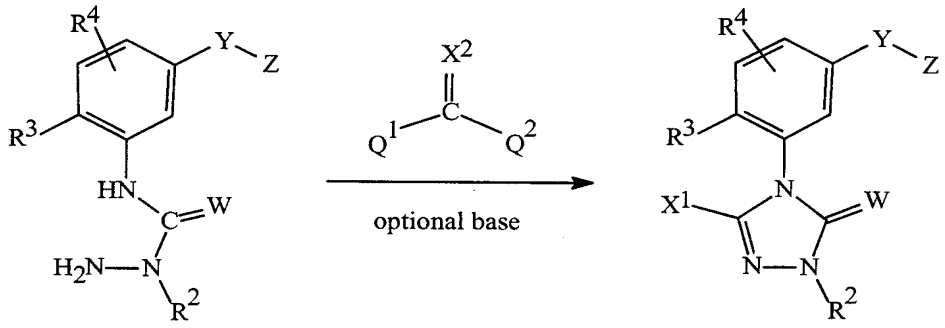


9a R = C_1-C_4 alkyl 25a

Compounds of Formula 1c (compounds of Formula 1 wherein A = N and G = N) can be prepared by condensation of *N*-amino-ureas of Formula 26 with a carbonylating agent (Scheme 19). The carbonylating agents are carbonyl or thiocarbonyl transfer reagents such as phosgene, thiophosgene, diphosgene ($ClC(=O)OCCl_3$), triphosgene ($Cl_3COC(=O)OCCl_3$), 1,1'-carbonyldiimidazole, 1,1'-(thiocarbonyl)diimidazole, and 1,1'-carbonylbis-1*H*-1,2,4-triazole. Alternatively, the carbonylating agents can be alkyl chloroformates or dialkyl carbonates. Some of these carbonylating reactions may require the addition of a base to effect reaction. Appropriate bases include alkali metal alkoxides such as potassium *tert*-butoxide, inorganic bases such as sodium hydride and potassium carbonate, pyridine, or tertiary amines such as triethylamine, 1,8-diazabicyclo[5.4.0]undec-7-ene (DBU) or triethylenediamine. Suitable solvents include polar aprotic solvents such as acetonitrile, *N,N*-dimethylformamide, or dimethyl sulfoxide; ethers such as tetrahydrofuran, dimethoxyethane or diethyl ether; ketones such as acetone or 2-butanone; hydrocarbons such as toluene or benzene; or halocarbons such as dichloromethane or chloroform. The reaction

temperature can vary between 0 °C and 150 °C and the reaction time can be from 1 to 72 hours depending on the choice of base, solvent, temperature, and substrates.

Scheme 19



26 1c

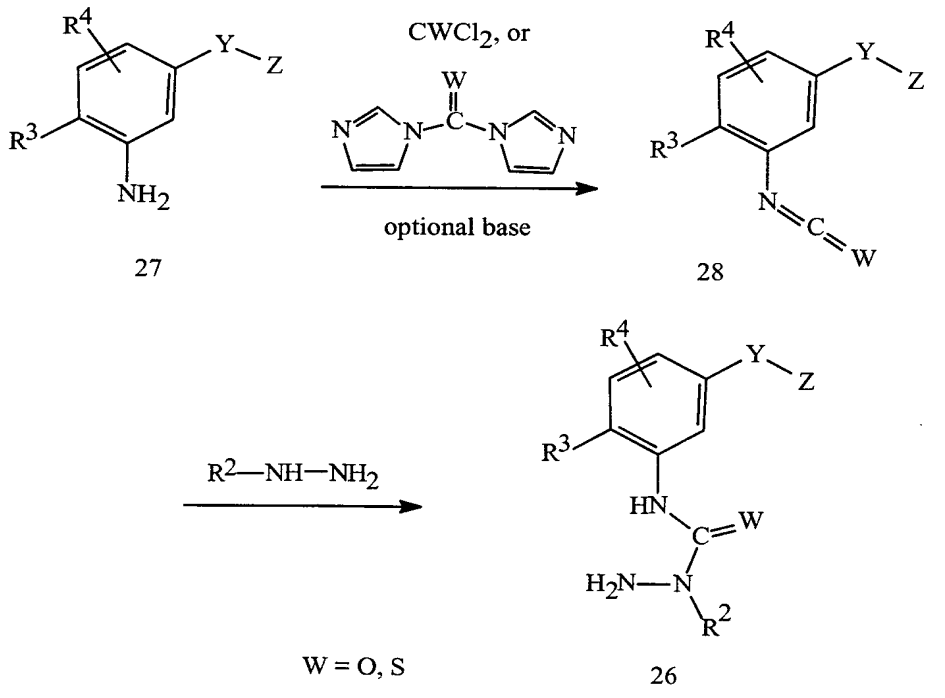
Q^1 and Q^2 are independently Cl, $OCCl_3$, $O(C_1\text{-}C_4$ alkyl), 1-imidazolyl, 1,2,4-triazolyl

X^1 = OH or SH

X^2 = O or S

N-Amino-ureas of Formula 26 can be prepared as illustrated in Scheme 20. Treatment of an aniline of Formula 27 with phosgene, thiophosgene, 1,1'-carbonyldiimidazole, or 1,1'-(thiocarbonyl)diimidazole produces the isocyanate or isothiocyanate of Formula 28. A base can be added for reactions with phosgene or thiophosgene. Subsequent treatment of the iso(thio)cyanate with an R^2-substituted hydrazine produces the *N*-amino-urea of Formula 26.

Scheme 20

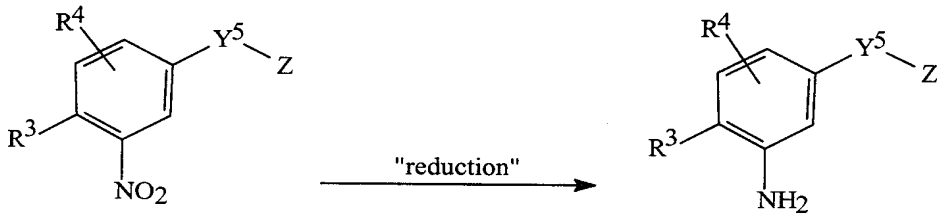


27 28 26

W = O, S

Anilines of Formula 27a (compounds of Formula 27 where Y = Y^5) can be prepared from nitro compounds of Formula 29 by reduction methods well known in the art, Scheme 21 (see M. Hudlicky, *Reductions in Organic Chemistry*; John Wiley & Sons, 1986; 69-76).

Scheme 21

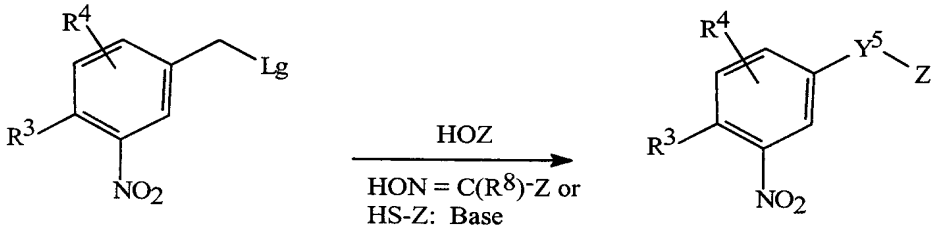


29 27a

Y^5 = $-CH_2O-$, $-CHR^{11}O-N=C(R^8)-$, $-CH_2S(O)_m-$

Compounds of Formula 29 can be prepared by contacting benzyl halides, mesylates or tosylates of Formula 30 with various nucleophiles (Scheme 22). The appropriate alcohol or thiol is treated with a base, for example sodium hydride, to form the corresponding alkoxide or thioalkoxide which acts as the nucleophile.

Scheme 22

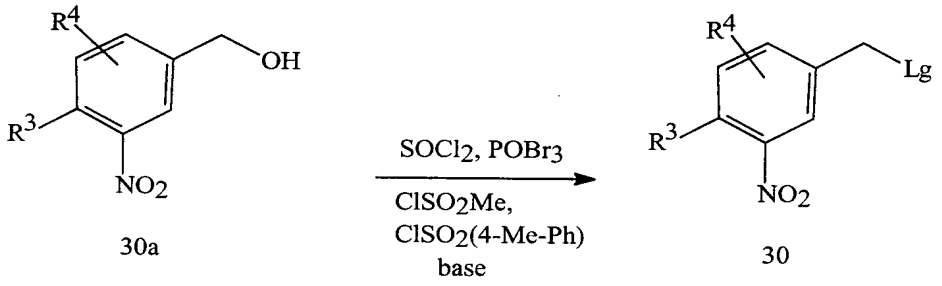


30 29

Lg = Br, Cl, I, OSO_2CH_3, OSO_2(4-Me-Ph)

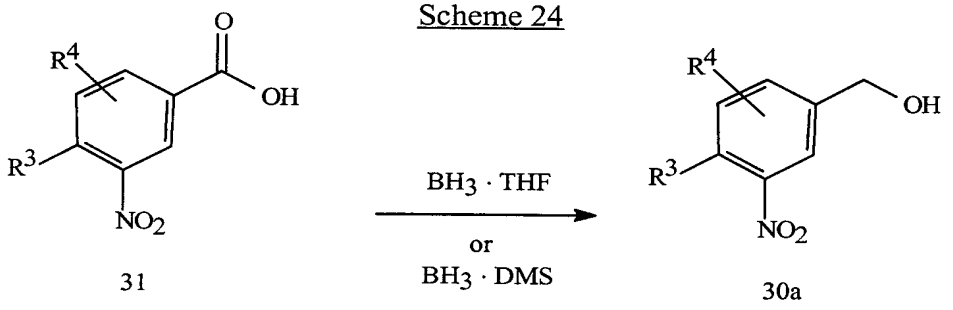
Compounds of Formula 30 can be prepared from corresponding nitrobenzyl alcohols of Formula 30a (compounds of Formula 30 where the Lg group has been replaced with OH) by reaction with halogenating agents such as thionyl chloride or phosphorus oxybromide to form the corresponding β-halo-substituted derivatives (Scheme 23). Compounds of Formula 30a can also be treated with an sulfonyl halide or haloalkylsulfonyl anhydride, such as methane sulfonyl chloride, *p*-toluenesulfonyl chloride, and trifluoromethanesulfonyl anhydride, to form the corresponding β-sulfonate of Formula 30. The reaction with the sulfonyl halides may be performed in the presence of a suitable base (e.g., triethylamine).

Scheme 23



Compounds of Formula 30a can be prepared by reduction of nitrobenzoic acids of Formula 31 with a suitable reducing agent (Scheme 24), such as borane in tetrahydrofuran or dimethyl sulfide as taught in M. Pavia, W. H. Moos and F. M. Hershenson, *J. Org. Chem.* 1990, *55*, 560, or C. F. Lane, H. L. Myatt, J. Daniels and H. B. Hopps *J. Org. Chem.* 1974, *39*, 3052.

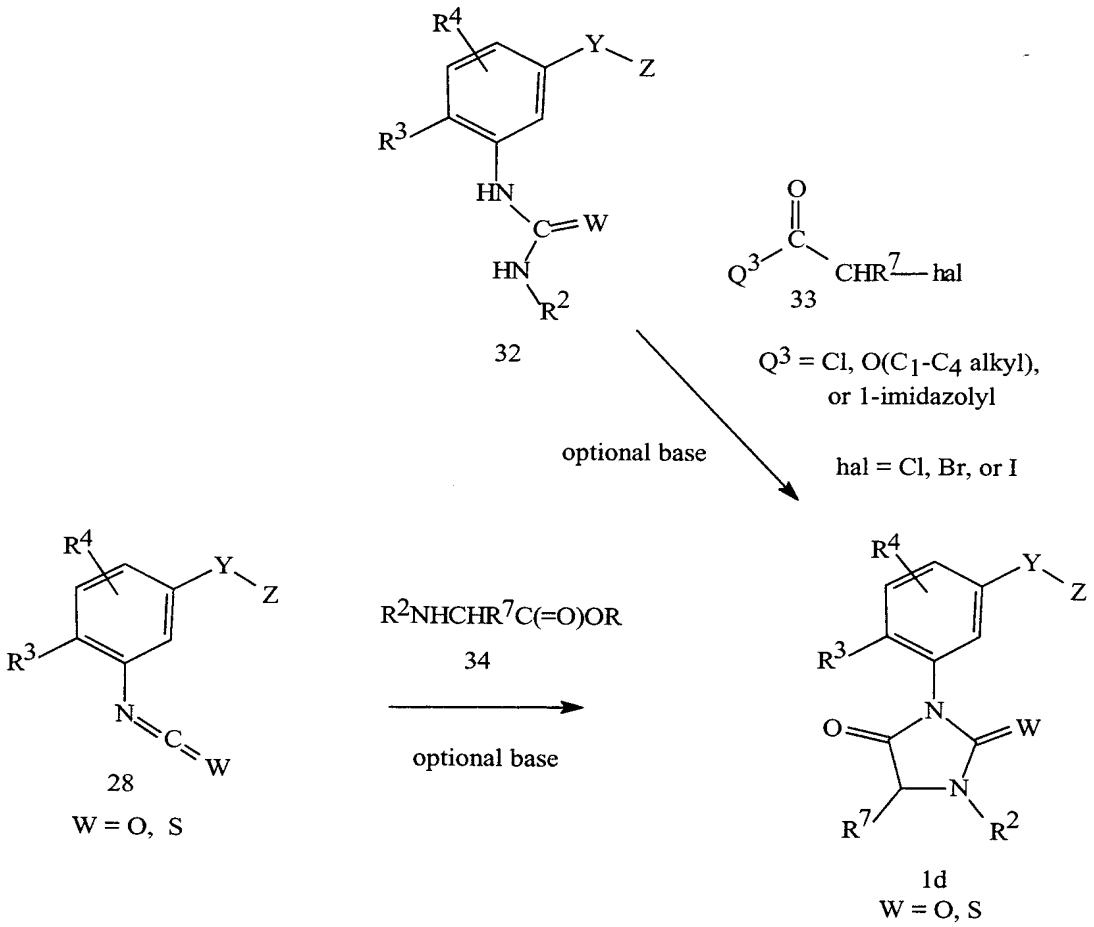
Scheme 24



Compounds of Formula 1d (compounds of Formula 1 wherein A = CR^7, G = N, and X^1 = O) can be prepared by the methods illustrated in Scheme 25. Ureas of Formula 32 are reacted with activated 2-halocarboxylic acid derivatives such as 2-halocarboxylic acid chlorides, 2-halocarboxylic acid esters or 2-haloacyl imidazoles of Formula 33. The initial acylation on the aniline nitrogen is followed by an intramolecular displacement of the 2-halo group to effect cyclization. Base may be added to accelerate the acylation and/or the subsequent cyclization. Suitable bases include triethylamine and sodium hydride. Alternatively, Formula 1d compounds can be prepared by reaction of Formula 28 iso(thio)cyanates with Formula 34 esters. As described above, base may be added to accelerate the reaction and subsequent cyclization to Formula 1d compounds.

25

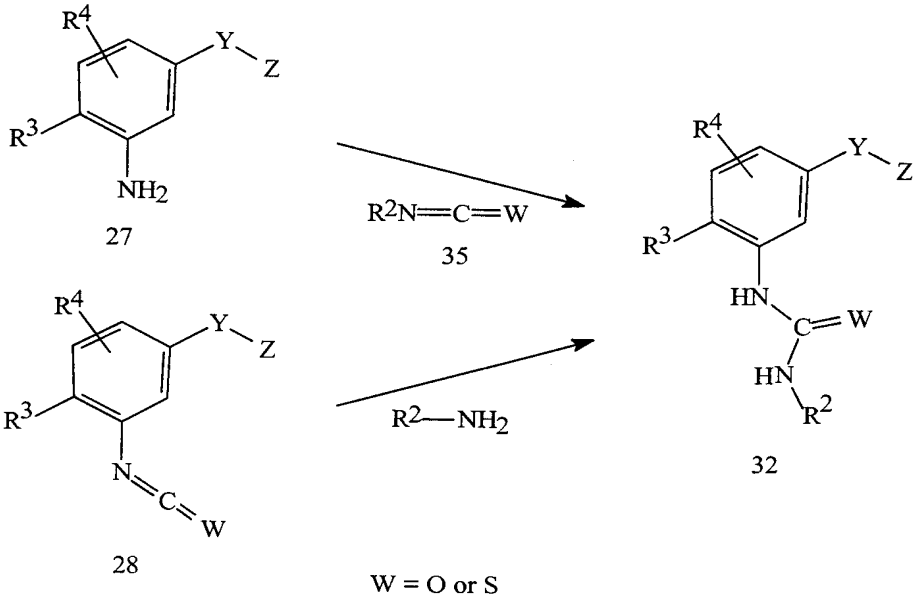
Scheme 25



The (thio)ureas of Formula 32 can be prepared by either of the methods illustrated in Scheme 26. The anilines of Formula 27 can be contacted with an isocyanate or isothiocyanate of Formula 35 as described above. Alternatively, an iso(thio)cyanate of Formula 28 can be condensed with an amine of Formula R^2-NH_2 to form the urea. The anilines and iso(thio)cyanates of Formulae 27 and 28, respectively, are commercially available or prepared by well-known methods. For example, isothiocyanates can be prepared by methods described in *J. Heterocycl. Chem.* 1990, *27*, 407. Isocyanates can be prepared as described in March, J. *Advanced Organic Chemistry*; 3rd ed., John Wiley: New York, 1985; 944, 1166.

26

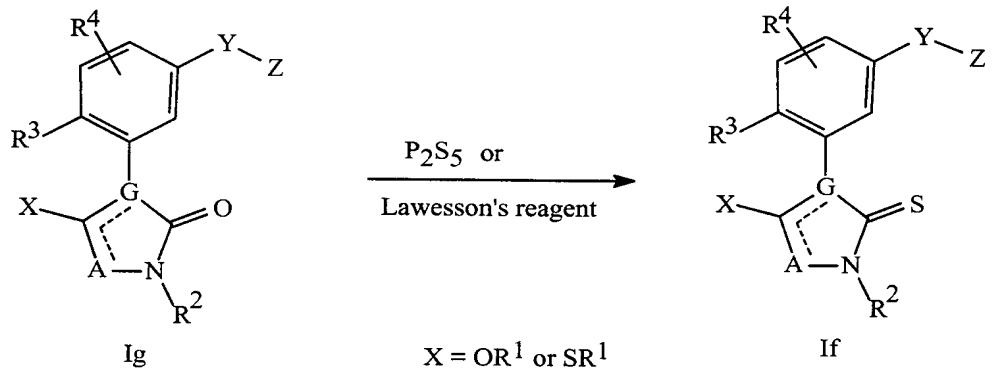
Scheme 26



4) Thionation Procedures

Compounds of Formula If (compounds of Formula Ic wherein W = S) can be prepared by treating compounds of Formula Ig (compounds of Formula Ic wherein W = O) with thionating reagents such as P_2S_5 or Lawesson's reagent [2,4-bis(4-methoxyphenyl)-1,3-dithia-2,4-diphosphetane-2,4-disulfide] as illustrated in Scheme 27 (see *Bull. Soc. Chim. Belg.* 1978, *87*, 229; and *Tetrahedron Lett.* 1983, *24*, 3815).

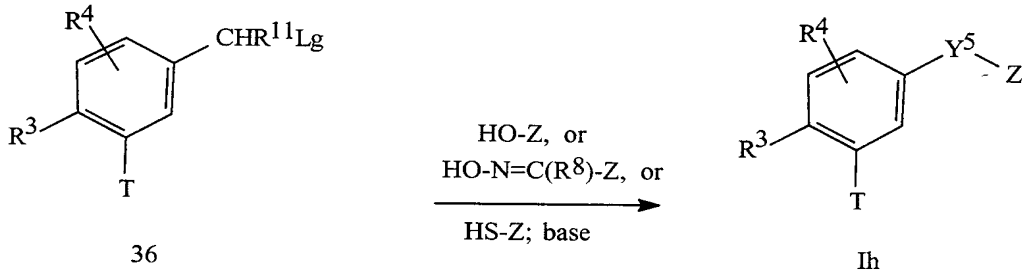
Scheme 27



5) Aryl Moiety Synthesis Procedures

Compounds of Formula Ih (compounds of Formula I wherein Y = Y^5 = $-CH_2O-$, $-CH_2S(O)_m-$, or $-CHR^{11}O-N=C(R^8)-$) can be prepared by displacing the appropriate leaving group (Lg) in electrophiles of Formula 36 (compounds of Formula II wherein Y^1 = $CHR^{11}Lg$) with various nucleophiles (Scheme 28).

Scheme 28



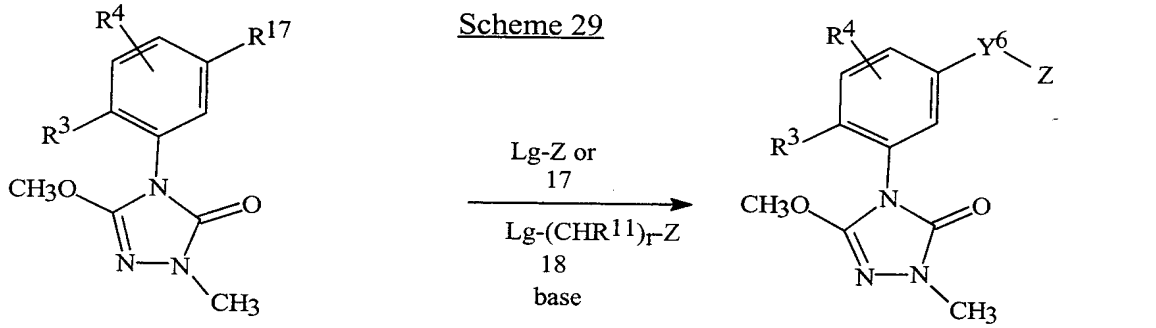
36 Ih

Y^5 = $-CH_2O-$, $-CH^{11}O-N=C(R^8)-$, $-CH_2S(O)_m-$
Lg = Br, Cl, I, OSO_2CH_3, OSO_2(4-Me-Ph)

The appropriate alcohol or thiol is treated with a base, for example sodium hydride, to form the corresponding alkoxide or thioalkoxide which acts as the nucleophile. Compounds of Formula Ih (compounds of Formula I wherein T = T^2 and Y = Y^5 is as defined in Scheme 28) can be prepared according to methods described in the following references: for Y^5 = $-(CH_2)_rO-$, EP-A-278,595 and EP-A-472,224; for Y^5 = $-(CH_2)_rS(O)_m-$, EP-A-379,098; for Y^5 = $-CHR^{11}O-N=C(R^8)-$, EP-A-370,629 and WO 94/05620. Compounds of Formula Ih (compounds of Formula I wherein T = T^3 and Y = Y^5 is as defined in Scheme 28) can be prepared according to methods described in the following references: for Y^5 = $-(CH_2)_rO-$, EP-A-253,213, EP-A-498,188 and EP-A-554,767; for Y^5 = $-(CH_2)_rS(O)_m-$, EP-A-374,811; for Y^5 = $-CHR^{11}O-N=C(R^8)-$, EP-A-414,153, EP-A-472,300, EP-A-515,901, and WO 92/18494.

Compounds of Formula Ii (compounds of Formula I where T is T^1, X is OR^1, R^1 is CH_3, R^2 is CH_3, W is O, A is N, G is N, Y^6 is -O-, $-O(CH_2)_r-$ or $-S(CHR^{11})_r-$) can be prepared by forming the Y^6 bridge using conventional nucleophilic substitution chemistry (Scheme 29). Displacement of an appropriate leaving group (Lg) in electrophiles of Formula 17 or 18 with nucleophilic compounds of Formula 37 (compounds of Formula II wherein Y^1 is OH or SH, T is T^1, G is N, A is N and the double bond is attached to A, R^2 is Me and X is OMe) affords compounds of Formula Ii. A base, for example sodium hydride, is used to generate the corresponding alkoxide or thioalkoxide of the compounds of Formula 37. In some cases, an additional substituent on Z which activates the leaving group (Lg) can be advantageous (e.g., when Lg-Z is 2-chloro-3-nitrothiophene, the activating nitro group can be removed after coupling by reduction to the amine followed by diazotization and reduction to provide compounds of Formula Ii).

Scheme 29



37

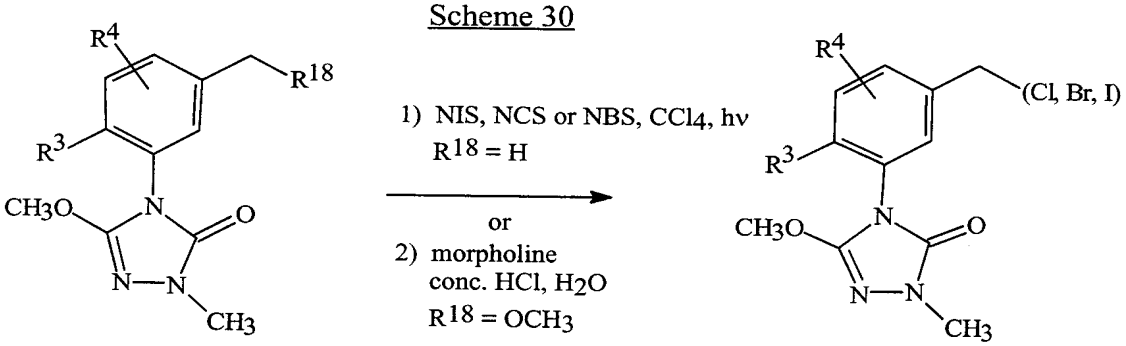
R17 = OH or SH

Ii

Y6 = -O-, -O(CH2)r-, -S(CHR11)r-

Benzyl halides of Formula 38 can be prepared by radical halogenation of the corresponding alkyl compound of Formula 39a, see WO 96/38425. Benzyl halides can also be prepared by the acidic cleavage of the corresponding methyl ether of Formula 39b under conditions which provide the halide, see Scheme 30. Methods for preparing the corresponding compounds of Formula 38 wherein the T^1 group has been replaced by T^2 are described in WO 94/05620. Methods for preparing the corresponding compounds of Formula 38 wherein the T^1 group has been replaced by T^3 are described in EP-A-254,426, EP-A-299,694 and AU-A-55899/90.

Scheme 30



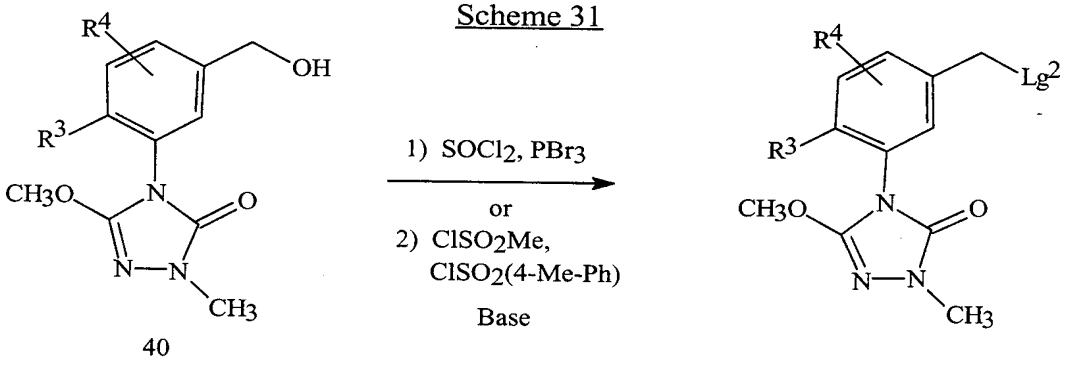
39a R18 = H

39b R18 = OCH3

38

Alternatively compounds of Formula 38 can be prepared from the corresponding alcohol of Formula 40 by reaction with halogenating agents such as thionyl chloride or phosphorus oxybromide to form the corresponding β-halo-substituted derivatives. Alternatively, compounds of Formula 40 can be treated with an sulfonyl halide or haloalkylsulfonyl anhydride, such as methane sulfonyl chloride, *p*-toluenesulfonyl chloride, and trifluoromethanesulfonyl anhydride, to form the corresponding β-sulfonate of Formula 41. The reaction with the sulfonyl halides may be performed in the presence of a suitable base (e.g., triethylamine) see Scheme 31.

Scheme 31

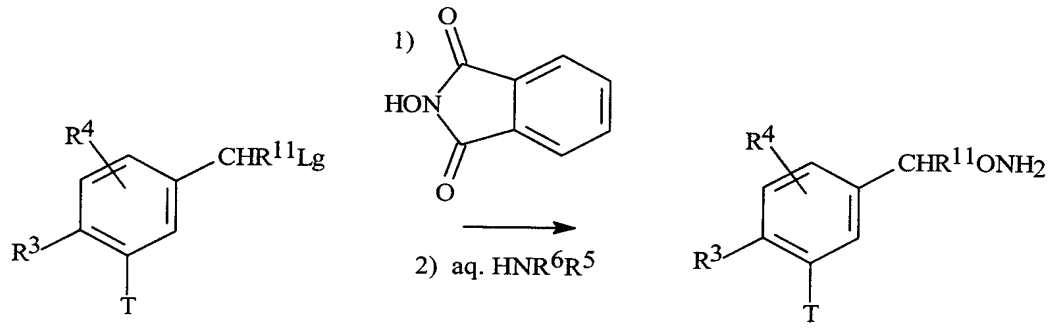


40

38 Lg^2 = Cl, Br
41 Lg^2 = OSO_2 or OSO_2(4-Me-Ph)

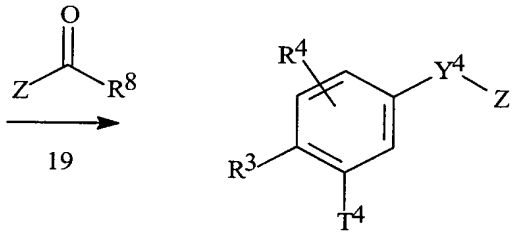
Compounds of Formula 42a wherein T = T^3 can be used to prepare compounds of Formula Ij wherein T = T^4 and Y^4 = -CHR^{11}O-N=C(R^8)- according to methods described in EP-A-585,751 and illustrated in Scheme 32. Compounds of Formula 42a are treated with *N*-hydroxyphthalimide. Treatment of this intermediate with HNR^6R^5 yields compounds of Formula 42b wherein T^3 is converted to T^4. Treatment of compounds of Formula 42b with compounds of Formula 19 provides compounds of Formula Ij.

Scheme 32



42a T = T^3 = -C(=NOR^1)-COOR^5

42b T = T^4 = -C(=NOR^1)-CONR^6R^5

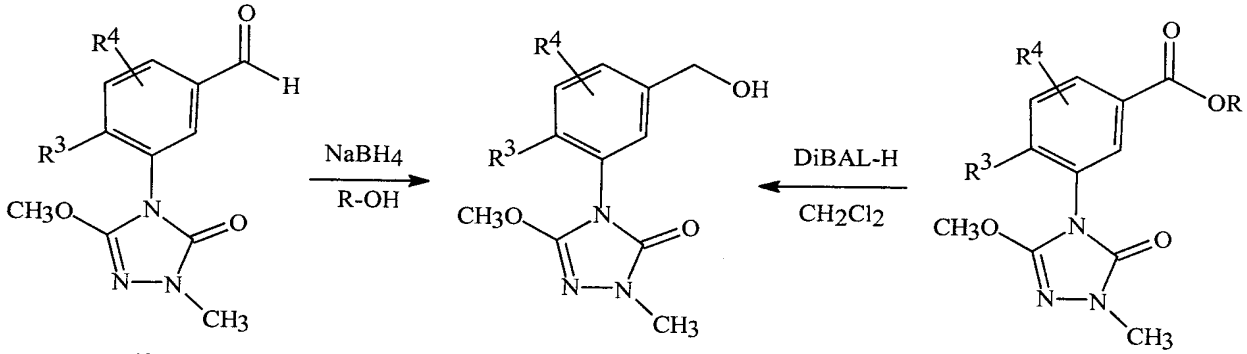


Ij Y^4 = -CHR^{11}O-N=C(R^8)-

Compounds of Formula 40 can be prepared by reducing esters of Formula 44 or aldehydes of Formula 43 with an appropriate reducing agent, (M. Hudlicky, *Reductions in Organic Chemistry*; John Wiley & Sons, 1986; 147-160). For example, diisobutylaluminum hydride (DIBAL-H) can be used to reduce 44 in an inert solvent such as methylene chloride,

diethyl ether or tetrahydrofuran. Compounds of Formula 43 can be reduced with sodium borohydride in a protic solvent such as methanol or ethanol, Scheme 33.

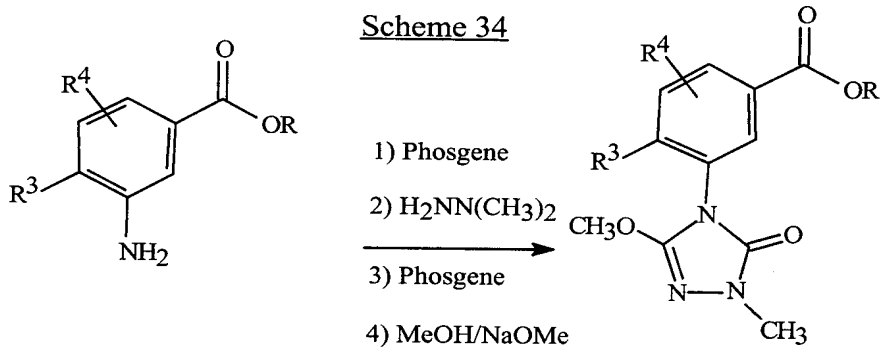
Scheme 33



43 40 44

Esters of Formula 44 can be prepared from aminobenzoic acid esters of Formula 45 according to the procedures described in Scheme 34. Esters 45 can be prepared from readily accessible aminobenzoic acids by esterification techniques well known in the art.

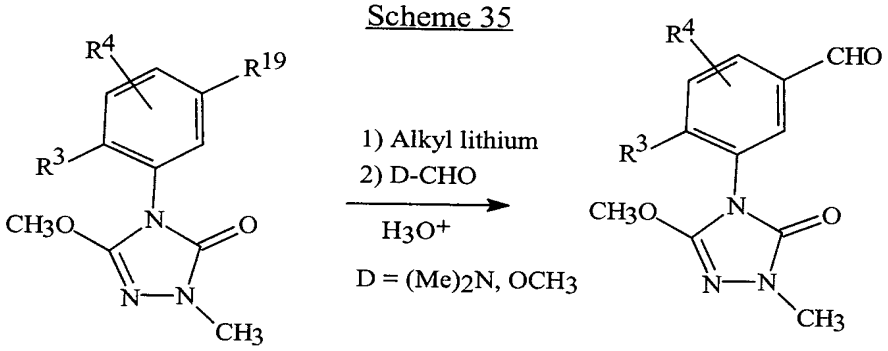
Scheme 34



45 44

Compounds of Formula 43 can be prepared by metal-halogen exchange in compounds of Formula 46 (when R^{19} = Cl, Br, I) with alkyllithium reagents in an inert solvent. Quenching of the metalated species with a formaldehyde equivalent (i.e., *N,N*-dimethylformamide or methyl chloroformate) yields compound of Formula 43 (see Scheme 35).

Scheme 35

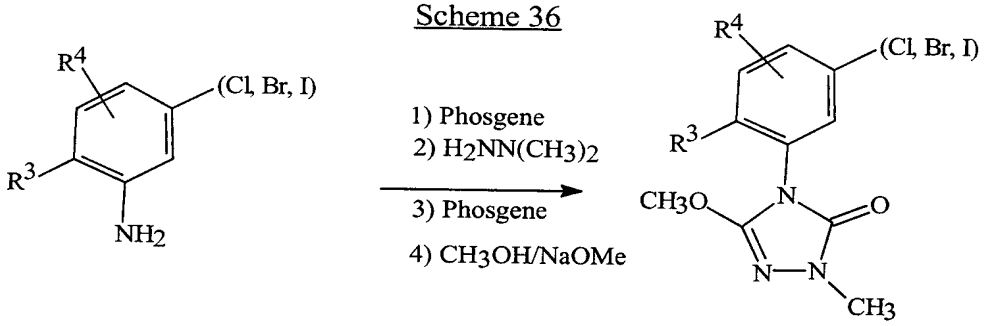


46 R^{19} = Cl, Br or I

43

Compounds of Formula 46 are prepared from commercially available anilines of Formula 47 according to the procedures described for the synthesis of 44, Scheme 34.

Scheme 36

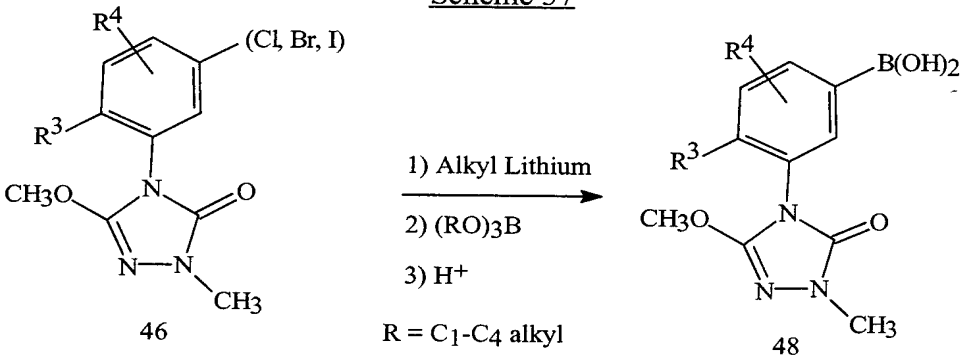


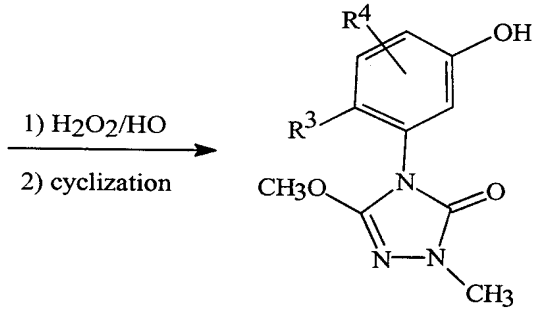
47

46

Compounds of Formula 37a (Compounds of Formula 37 where R^{17} = OH) can be prepared by the oxidative work-up of intermediate boronic acids of Formula 48. In turn compounds of Formula 48 can be prepared from compounds of Formula 46 by metallation using an alkyllithium followed by quenching with a trialkoxy borane, (Scheme 37), see *Organic Synthesis via Boranes*; Wiley: New York, 1975.

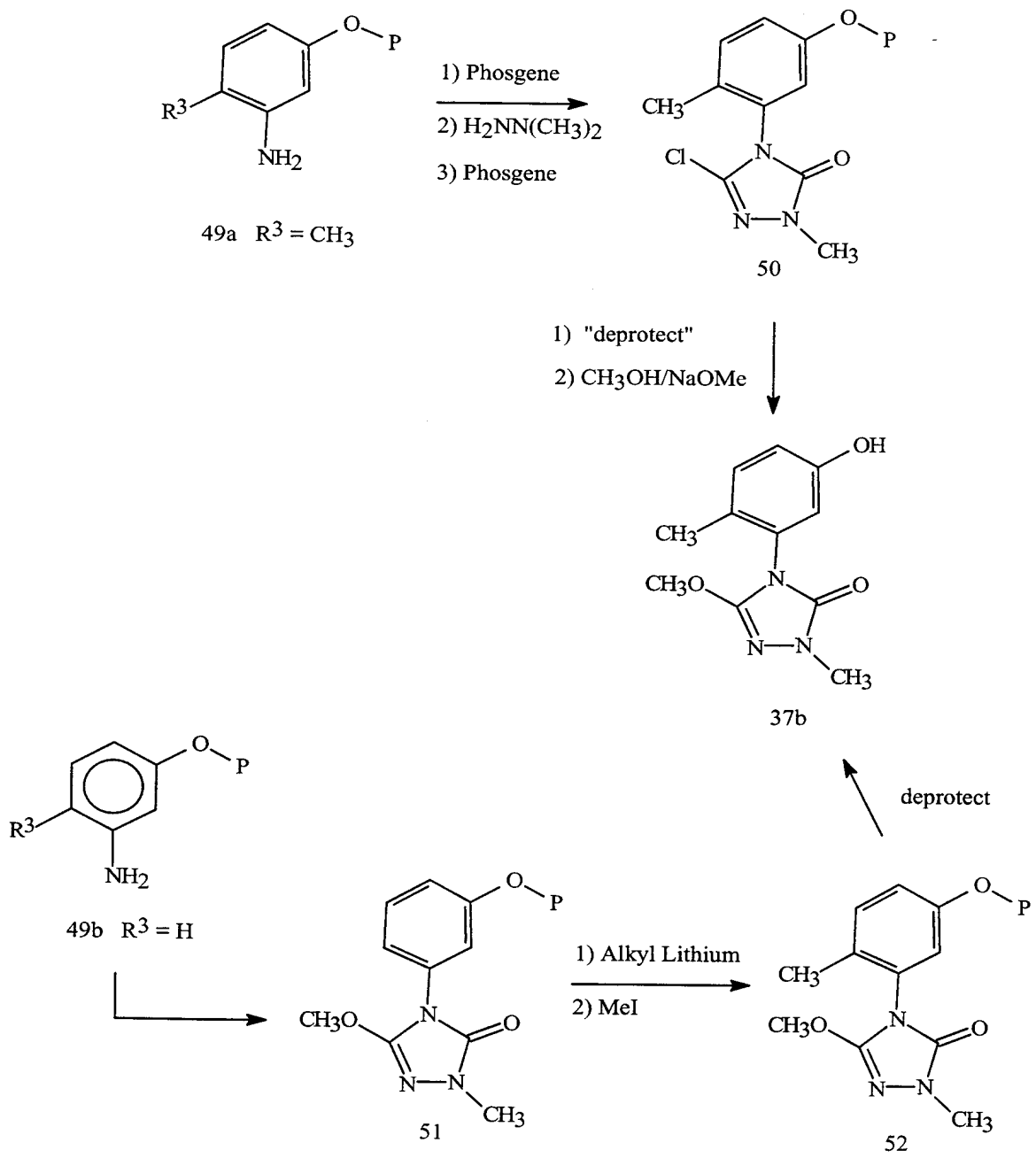
Scheme 37





Alternatively compounds of Formula 37b (compounds of Formula 37 wherein $R^3 = CH_3$, R^4= H and R^{17} = OH) can be prepared according to the route outlined in Scheme 38. Commercially available anilines of Formula 49a (where $R^3 = CH_3$ and P is a protecting group) are converted to the triazolone of Formula 50 according to the procedures described above. Deprotection of the oxygen followed by alcoholysis yields compounds of Formula 37b. Alternatively compounds of Formula 49b (where R^3 = H and P is a protecting group) are converted to the triazolone 51 as previously described. Metallation at the ortho-position followed by quenching with an electrophile such as iodomethane yields compound of Formula 52 which is deprotected to yield compound of Formula 37b, Scheme 38.

Scheme 38

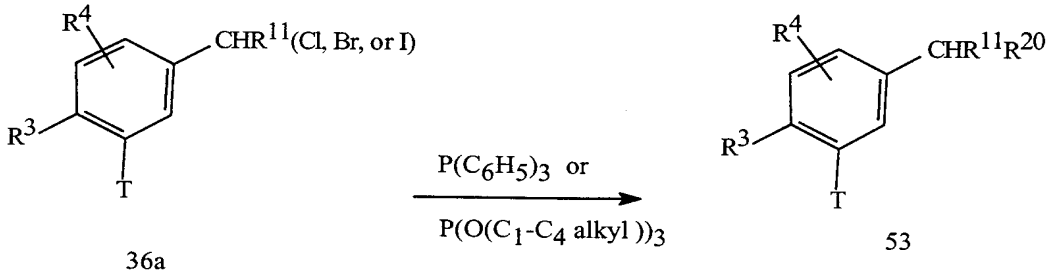


Compounds of Formula I wherein Y is -CR^{11}=CR^{11}- can be prepared as illustrated in Scheme 39. Treatment of compounds of Formula 36a (compounds of Formula 36 where Lg is Cl, Br or I) with triphenylphosphine or a trialkylphosphite produces the corresponding phosphonium salt (Formula 53a) or phosphonate (Formula 53b), respectively. Condensation of the phosphorus compound with a base and a carbonyl compound of Formula $Z(R^{11})C=O$ affords the olefin of Formula Ik. Compounds of Formula Ik wherein T = T^2 may be prepared by methods described in EP-A-203,606, EP-A-474,042, EP-A-528,245 and FR 2,670,781.

Compounds of Formula Ik wherein T = T^3 may be prepared by methods described in EP-A-253,213 and EP-A-254,426.

Compounds of Formula Im can be prepared from compounds of Formula Ik by catalytic hydrogenation, see Rylander, P. N. *Catalytic Hydrogenation in Organic Synthesis*, Academic Press; New York, 1979.

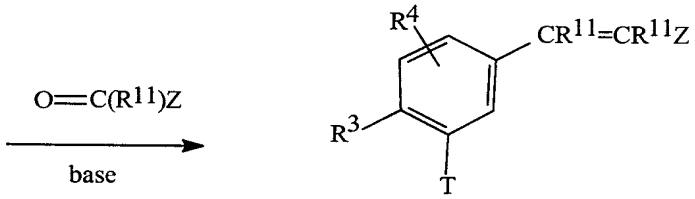
Scheme 39



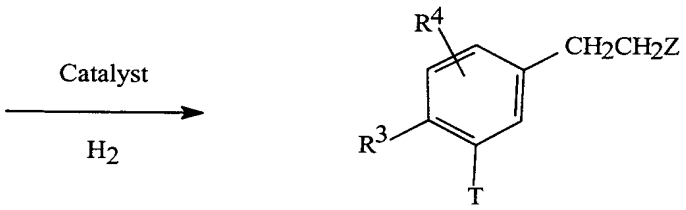
36a 53

53a $R^{20} = P(C_6H_5)_3^+$ (Cl, Br or I) -

53b $R^{20} = P(O(C_1\text{-}C_4 \text{ alkyl}))_2$



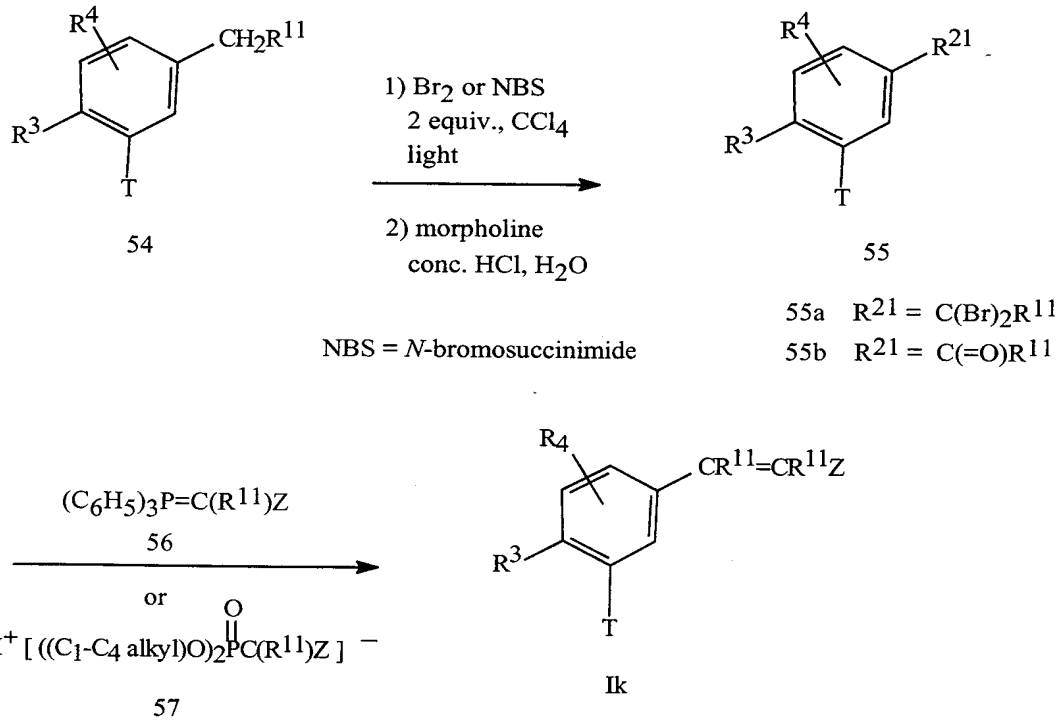
Ik



Im

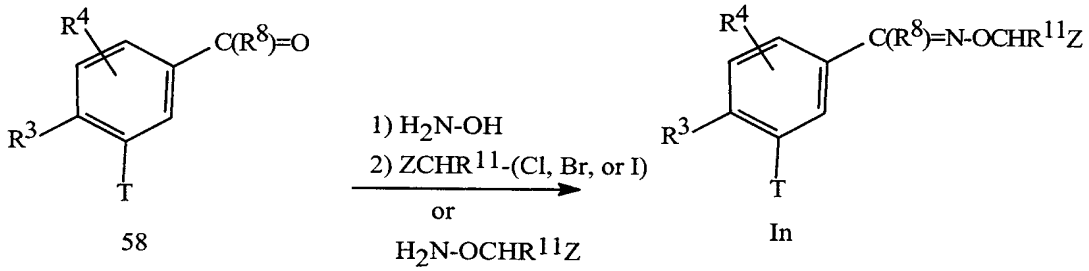
The olefin of Formula Ik can also be prepared by reversing the reactivity of the reactants in the Wittig or Horner-Emmons condensation. For example, 2-alkylphenyl derivatives of Formula 54 can be converted into the corresponding dibromo-compounds of Formula 53a as illustrated in Scheme 40 (see *Synthesis* 1988, 330). The dibromo-compounds can be hydrolyzed to the carbonyl compounds of Formula 53b, which in turn can be condensed with a phosphorus-containing nucleophile of Formula 56 or 57 to afford the olefins of Formula Ik.

Scheme 40



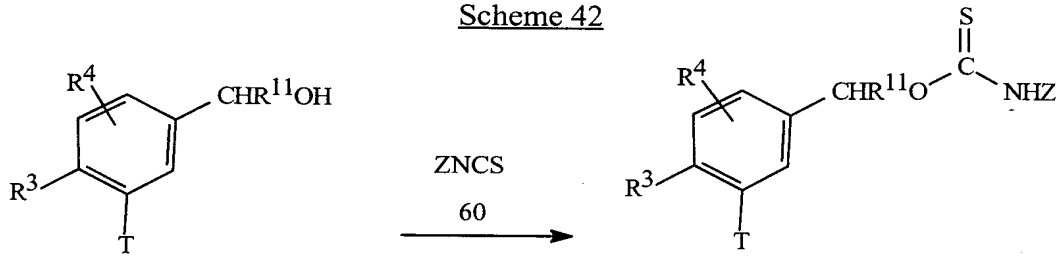
Oximes of Formula In (Formula I wherein Y is -C(R^8)=N-O-CHR^{11}-) can be prepared from carbonyl compounds of Formula 58 by condensation with hydroxylamine, followed by *O*-alkylation with electrophiles of Formula ZCHR^{11}-(Cl, Br, or I) (Scheme 41). Alternatively, the *O*-substituted hydroxylamine can be condensed with the carbonyl compound of Formula 58 to yield oximes of Formula In directly. Compounds of Formula In wherein T = T^2, T^3, or T^4 may be prepared by methods described in EP-A-499,823 and EP-A-596,254.

Scheme 41



Carbamates of Formula Io can be prepared by reacting benzyl alcohols of Formula 59 (compounds of Formula II wherein Y^1 is CH(R^{11})OH) with iso(thio)cyanates of Formula 60 (Scheme 42). A base such as triethylamine can be added to catalyze the reaction. Compounds of Formula Io wherein T = T^2, T^3, or T^4 may be prepared by methods described in WO 93/07116.

Scheme 42



59 Io

Compounds of Formula Ip may be prepared by methods described in EP-A-178,826, EP-A-341,845 and EP-A-464,381.

Compounds of Formula Iq as defined in Scheme 43 may be prepared by methods described in EP-A-398,692.

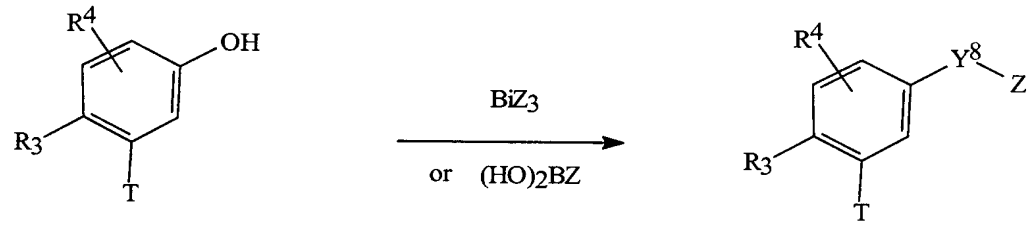
Scheme 43

Ip Iq

Y^7 = -O-, $-(CH_2)_r-$, $-C(R^{11})=C(R^{11})-$,
$-(CH_2)_rO-$, $-O(CH_2)_r-$, $-(CH_2)_rS(O)_n-$
or $-S(CHR^{11})_r-$

Compounds of Formula Ir (compounds of Formula I wherein Y^8 = -O-) can be prepared by treating compounds of Formula 61 with a triarylbismuth compound or a substituted phenylboronic acid in the presence of cupric acetate and a tertiary amine such as pyridine or triethylamine as illustrated in Scheme 44. The use of organobismuth reagents in the preparation of diaryl ethers is well known in the art (see *Tetrahedron Lett.* 1986, *27*, 3619, and *Tetrahedron Lett.* 1987, *28*, 887). Boronic acids are well known in the literature (see *Acta Chem. Scand.* 1993, *47*, 221 and references therein).

Scheme 44



61 Ir

Y^8 = -O-

It is recognized that some reagents and reaction conditions described above for preparing compounds of Formula I may not be compatible with certain functionalities present in the intermediates. In these instances, the incorporation of protection/deprotection sequences or functional group interconversions into the synthesis will aid in obtaining the desired products. The use and choice of the protecting groups will be apparent to one skilled in chemical synthesis (see, for example, Greene, T. W.; Wuts, P. G. M. *Protective Groups in Organic Synthesis*, 2nd ed.; Wiley: New York, 1991). One skilled in the art will recognize that, in some cases, after the introduction of a given reagent as it is depicted in any individual scheme, it may be necessary to perform additional routine synthetic steps not described in detail to complete the synthesis of compounds of Formula I. One skilled in the art will also recognize that it may be necessary to perform a combination of the steps illustrated in the above schemes in an order other than that implied by the particular sequence presented to prepare the compounds of Formula I.

One skilled in the art will also recognize that compounds of Formula I and the intermediates described herein can be subjected to various electrophilic, nucleophilic, radical, organometallic, oxidation, and reduction reactions to add substituents or modify existing substituents.

Without further elaboration, it is believed that one skilled in the art using the preceding description can utilize the present invention to its fullest extent. The following Examples are, therefore, to be construed as merely illustrative, and not limiting of the disclosure in any way whatsoever. Percentages are by weight except for chromatographic solvent mixtures or where otherwise indicated. Parts and percentages for chromatographic solvent mixtures are by volume unless otherwise indicated. ^{1}H NMR spectra are reported in ppm downfield from tetramethylsilane; s = singlet, d = doublet, m = multiplet and dd = doublet of doublets. Coupling constants are indicated by J and reported in Hertz.

EXAMPLE 1

Step A: Preparation of methyl 2,5-dimethyl-α-oxobenzeneacetate

Under nitrogen, 2-bromo-p-xylene (25 g, 0.135 mol) was added dropwise to a suspension of magnesium chips (4.25 g, 0.18 mol), 4 drops of 1,2-dibromoethane and an iodine crystal in 100 mL THF at room temperature. A gradual exotherm to a gentle reflux was noted and the reaction refluxed under nitrogen for 1 h then cooled to room temperature. This solution was then added to a solution of oxalyl chloride (18.9 g, 0.15 mol) in 150 mL dry THF at -65 °C with a slight exotherm noted. The reaction was stirred at this temperature for 2 h after which time 30 mL methanol were added dropwise with a slight exotherm noted. The reaction warmed to room temperature overnight.

After 18 h of stirring a room temperature, 100 mL saturated ammonium chloride were added dropwise followed by 200 mL water. The solution was then extracted twice with diethyl ether, washed with saturated brine, dried over magnesium sulfate and concentrated to

give an oil which was purified via column chromatography using 19:1/hexanes:ethyl acetate as the eluent to give 11.1 g (43%) of the title compound as a pure oil. ^{1}H NMR ($CDCl_3$) δ 2.37 (s, 3H), 2.55 (s, 3H), 3.97 (s, 3H), 7.19 (d, 1H, J = 7.9Hz), 7.31(d, 1H, J = 7.7Hz), 7.46 (s, 1H).

Step B: Preparation of (*E*)-methyl α-(methoxyimino)-2,5-dimethylbenzeneacetate

The title compound of Step A above (6.26 g, 0.0326 mol) was combined with *O*-methylhydroxylamine hydrochloride (3.3 g, 0.0391 mol) in 100 mL methanol and refluxed for 18 h. The reaction was then cooled to room temperature and concentrated under reduced pressure to semi-solids which were diluted with water and extracted with methylene chloride twice, dried over magnesium sulfate and concentrated under reduced pressure to an oil. This crude oil was then purified via column chromatography using 19:1/hexanes:ethyl acetate as the eluent to yield 5.80 g of a pure oil identified as the title compound. ^{1}H NMR ($CDCl_3$) δ 2.14 (s, 3H), 2.33 (s, 3H), 3.87 (s, 3H), 4.05 (s, 3H), 6.91(s, 1H), 7.13 (s, 2H).

Step C: Preparation of (*E*)-methyl 5-(bromomethyl)-α-(methoxyimino)-2-methylbenzeneacetate

The title compound from Step B above (5.80 g, 0.0262 mol) was combined with *N*-bromosuccinimide (5.61 g, 0.0315 mol) and 10 mg of benzoyl peroxide in 100 mL carbon tetrachloride and refluxed 5 h under nitrogen. The reaction was then cooled to room temperature and concentrated under reduced pressure to an oil which was purified via column chromatography using 1:1:8/ethyl acetate:THF:hexanes as the eluent to yield 0.40 g of pure, title compound as an oil. ^{1}H NMR ($CDCl_3$) δ 3.9 (s, 3H), 4.1(s, 3H), 4.5 (s, 2H), 7.1-7.2 (m, 1H), 7.2-7.3 (m, 1H), 7.45(s, 1H).

Step D: Preparation of (*E*)-methyl α-(methoxyimino)-2-methyl-5-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]benzeneacetate

1-[3-(Trifluoromethyl)phenyl]ethanone oxime (0.30 g, 0.0015 mol) and sodium hydride (0.06 g of 60%, 0.0015 mol) were combined at room temperature in 30 mL *N,N*-dimethylformamide and stirred for 1 h. Then the title compound from Step C above (0.40 g, 0.00133 mol) was added with no exotherm. The reaction was stirred at room temperature for 18 h. The reaction was diluted with ice-water and extracted with diethyl ether twice, washed with saturated brine and dried over magnesium sulfate. The solvent was removed under reduced pressure to give an oil which was purified via column chromatography using 4:1/hexane:ethyl acetate to yield 0.13 g of pure, title compound as an oil. ^{1}H NMR ($CDCl_3$) δ 2.19 (s, 3H), 2.27 (s, 3H), 3.86 (s, 3H), 4.04 (s, 3H), 5.23 (s, 2H), 7.15 (d, 1H, J=1.7Hz), 7.25 (m, 1H), 7.37 (dd, 1H, J=1.7, 7.3Hz), 7.5 (m, 1H), 7.6 (d, 1H, J=7.8Hz), 7.84 (m, 1H), 7.89 (d, 1H, J=0.5).

EXAMPLE 2

Step A: Preparation of (*E*)-methyl α-(methoxymethylene)-2,5-dimethylbenzeneacetate

Under nitrogen, methoxymethyl triphenylphosphonium chloride (24 g, 0.07 mol) was added portion-wise to a solution of potassium *tert*-butoxide (7.8 g, 0.07 mol in 300 mL dry diethyl ether at 5 °C. The reaction then stirred at room temperature for 1 h. Then the title compound from Example 1, Step A above (11.1 g, 0.0578 mol) was added and the reaction stirred at room temperature for 18 h. The reaction was washed with water, dried over magnesium sulfate and concentrated to an oil. This crude oil was then purified via column chromatography using 4:1/hexanes:ethyl acetate to yield 1.9 g of pure title compound as an oil. ^{1}H NMR ($CDCl_3$) δ 2.13 (s, 3H), 2.31 (s, 3H), 3.70 (s, 3H), 3.82 (s, 3H), 6.92 (s, 1H), 7.02 (d, 1H, J=7.7), 7.11 (d, 1H, J=7.7), 7.55 (s, 1H).

Step B: Preparation of (*E*)-methyl 5-(bromomethyl)-α-(methoxymethylene)-2-methylbenzeneacetate

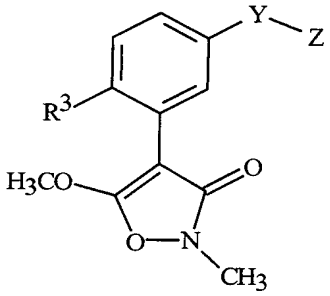
The title compound from Step A above (Example 2) (1.9 g, 0.0086 mol), *N*-bromosuccinimide (1.54 g, 0.0086 mol) and 10 mg of 2,2′-azobisisobutyronitrile (AIBN) were combined in 40 mL carbon tetrachloride and refluxed under nitrogen for 6 h, cooled to room temperature and concentrated to an oil. The crude oil was then purified via column chromatography using 4:1/hexanes:ethyl acetate as the eluent to give 0.10 g oil of the title compound. ^{1}H NMR ($CDCl_3$) δ 3.7(s, 3H), 3.8 (s, 3H), 4.45 (s, 2H), 7.1 (s, 1H), 7.2-7.3 (m, 2H), 7.6 (s, 1H).

Step C: Preparation of (*E*)-methyl α-(methoxymethylene)-2-methyl-5-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]benzeneacetate

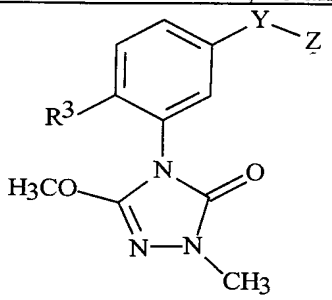
1-[3-(Trifluoromethyl)phenyl]ethanone oxime (0.075 g, 0.00037 mol) and sodium hydride (0.02 g of 60%, 0.00037 mol) were combined at room temperature in 10 mL DMF and stirred for 1 h. Then the title compound from Step B (Example 2) above (0.10 g, 0.00034 mol) was added with no exotherm. The reaction was stirred at room temperature for 18 h. The reaction was diluted with ice-water and extracted with diethyl ether twice, washed with saturated brine and dried over magnesium sulfate. The solvent was removed under reduced pressure to give an oil which was purified via column chromatography using 1:1/hexane:ethyl acetate to yield 0.13 g of pure, title compound as an oil. ^{1}H NMR ($CDCl_3$) δ 2.19 (s, 3H), 2.26 (s, 3H), 3.69 (s, 3H), 3.80 (s, 3H), 5.22 (s, 2H), 7.17 (s, 1H), 7.25 (m, 1H), 7.5 (m, 1H), 7.6 (m, 2H), 7.8 (m, 1H), 7.91 (d, 1H, J=0.5).

By the procedures described herein together with methods known in the art, the following compounds of Tables 1 to 10 can be prepared. The following abbreviations are used in the Tables which follow: *t* = tertiary, *i* = iso, Me = methyl, Et = ethyl, Pr = propyl, *i*-Pr = isopropyl, Bu = butyl, OMe = methoxy, SMe = methylthio and CN = cyano.

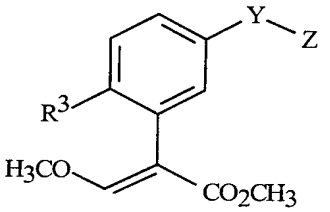
Structure for Table 1



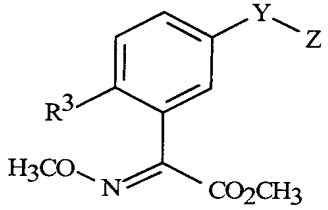
Structure for Tables 2a, 2b and 2c



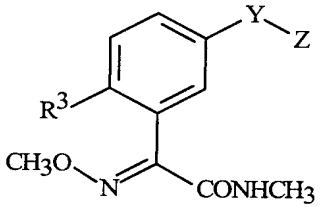
Structure for Table 3a, 3b and 3c



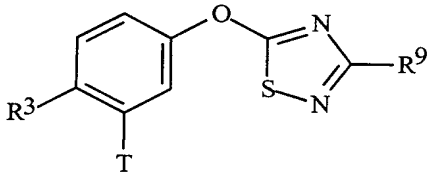
Structure for Table 4a, 4b and 4c



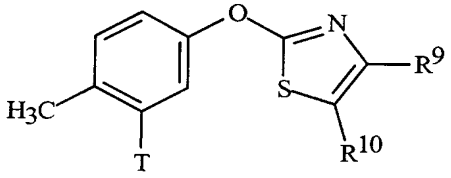
Structure for Table 5a, 5b and 5c



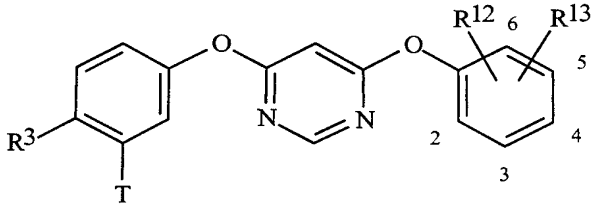
Structure for Tables 6a, 6b, 6c and 6d



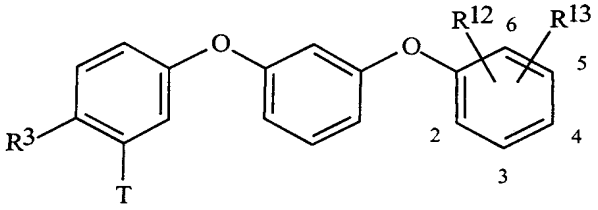
Structure for Tables 7a, 7b, 7c and 7d



Structure for Tables 8a, 8b, 8c and 8d



Structure for Tables 9a, 9b, 9c and 9d



Structure for Table 10

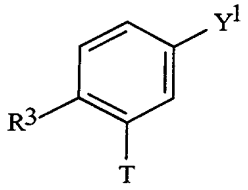


Table 1

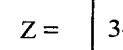
R^3	Y		Column 1	Column 2
CH_3	-O-	Z =	3-CF_3-phenyl	4-Me-2-thiazolyl
CH_3	-O-	Z =	3-CF_3-2-pyridinyl	5-phenyl-2-thiazolyl
CH_3	-O-	Z =	4-CF_3-phenyl	4-phenyl-2-thiazolyl
CH_3	-O-	Z =	4-CF_3-2-pyridinyl	3-phenoxyphenyl
CH_3	-O-	Z =	5-Me-2-thiazolyl	phenyl
Cl	-O-	Z =	3-CF_3-phenyl	4-Me-2-thiazolyl
Cl	-O-	Z =	3-CF_3-2-pyridinyl	5-phenyl-2-thiazolyl
Cl	-O-	Z =	4-CF_3-phenyl	4-phenyl-2-thiazolyl
Cl	-O-	Z =	4-CF_3-2-pyridinyl	3-phenoxyphenyl
Cl	-O-	Z =	5-Me-2-thiazolyl	phenyl
CF_3	-O-	Z =	3-CF_3-phenyl	4-Me-2-thiazolyl
CF_3	-O-	Z =	3-CF_3-2-pyridinyl	5-phenyl-2-thiazolyl
CF_3	-O-	Z =	4-CF_3-phenyl	4-phenyl-2-thiazolyl
CF_3	-O-	Z =	4-CF_3-2-pyridinyl	3-phenoxyphenyl
CF_3	-O-	Z =	5-Me-2-thiazolyl	phenyl
CH_3	-CH_2O-N=$C(CH_3)$-	Z =	3-CF_3-phenyl	4-Me-2-thiazolyl
CH_3	-CH_2O-N=$C(CH_3)$-	Z =	3-CF_3-2-pyridinyl	5-phenyl-2-thiazolyl
CH_3	-CH_2O-N=$C(CH_3)$-	Z =	4-CF_3-phenyl	4-phenyl-2-thiazolyl
CH_3	-CH_2O-N=$C(CH_3)$-	Z =	4-CF_3-2-pyridinyl	3-phenoxyphenyl
CH_3	-CH_2O-N=$C(CH_3)$-	Z =	5-Me-2-thiazolyl	phenyl
Cl	-CH_2O-N=$C(CH_3)$-	Z =	3-CF_3-phenyl	4-Me-2-thiazolyl
Cl	-CH_2O-N=$C(CH_3)$-	Z =	3-CF_3-2-pyridinyl	5-phenyl-2-thiazolyl
Cl	-CH_2O-N=$C(CH_3)$-	Z =	4-CF_3-phenyl	4-phenyl-2-thiazolyl
Cl	-CH_2O-N=$C(CH_3)$-	Z =	4-CF_3-2-pyridinyl	3-phenoxyphenyl
Cl	-CH_2O-N=$C(CH_3)$-	Z =	5-Me-2-thiazolyl	phenyl
CF_3	-CH_2O-N=$C(CH_3)$-	Z =	3-CF_3-phenyl	4-Me-2-thiazolyl
CF_3	-CH_2O-N=$C(CH_3)$-	Z =	3-CF_3-2-pyridinyl	5-phenyl-2-thiazolyl
CF_3	-CH_2O-N=$C(CH_3)$-	Z =	4-CF_3-phenyl	4-phenyl-2-thiazolyl
CF_3	-CH_2O-N=$C(CH_3)$-	Z =	4-CF_3-2-pyridinyl	3-phenoxyphenyl
CF_3	-CH_2O-N=$C(CH_3)$-	Z =	5-Me-2-thiazolyl	phenyl
CH_3	-$C(CH_3)$=N-CH_2-	Z =	3-CF_3-phenyl	4-Me-2-thiazolyl
CH_3	-$C(CH_3)$=N-CH_2-	Z =	3-CF_3-2-pyridinyl	5-phenyl-2-thiazolyl
CH_3	-$C(CH_3)$=N-CH_2-	Z =	4-CF_3-phenyl	4-phenyl-2-thiazolyl
CH_3	-$C(CH_3)$=N-CH_2-	Z =	4-CF_3-2-pyridinyl	3-phenoxyphenyl
CH_3	-$C(CH_3)$=N-CH_2-	Z =	5-Me-2-thiazolyl	phenyl

R^3	Y		Column 1	Column 2
Cl	$-C(CH_3)=N-CH_2-$	Z =	3-CF_3-phenyl	4-Me-2-thiazolyl
Cl	$-C(CH_3)=N-CH_2-$	Z =	3-CF_3-2-pyridinyl	5-phenyl-2-thiazolyl
Cl	$-C(CH_3)=N-CH_2-$	Z =	4-CF_3-phenyl	4-phenyl-2-thiazolyl
Cl	$-C(CH_3)=N-CH_2-$	Z =	4-CF_3-2-pyridinyl	3-phenoxyphenyl
Cl	$-C(CH_3)=N-CH_2-$	Z =	5-Me-2-thiazolyl	phenyl
CF_3	$-C(CH_3)=N-CH_2-$	Z =	3-CF_3-phenyl	4-Me-2-thiazolyl
CF_3	$-C(CH_3)=N-CH_2-$	Z =	3-CF_3-2-pyridinyl	5-phenyl-2-thiazolyl
CF_3	$-C(CH_3)=N-CH_2-$	Z =	4-CF_3-phenyl	4-phenyl-2-thiazolyl
CF_3	$-C(CH_3)=N-CH_2-$	Z =	4-CF_3-2-pyridinyl	3-phenoxyphenyl
CF_3	$-C(CH_3)=N-CH_2-$	Z =	5-Me-2-thiazolyl	phenyl

Table 2a

$R^3 = CH_3$

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl

Y		Column 1	Column 2
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-((CH_3)$_3$CC≡C)-phenyl	3-((CH_3)$_3$SiC≡C)-phenyl
-O-	Z =	3-()-phenyl	5-Me-2-thienyl
-O-	Z =	5-(CH_3)$_3$C-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-(CH_3)$_3$C-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-(CH_3)$_3$C-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-(CH_3)$_3$C-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl
-CH_2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
-CH_2O-	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
-CH_2O-	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
-CH_2O-	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
-CH_2O-	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
-CH_2O-	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH_2O-	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
-CH_2O-	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
-CH_2O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
-CH_2O-	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
-CH_2O-	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl

Y		Column 1	Column 2
$-CH_2O-$	Z =	1-napthalenyl	2,3,6-triMe-phenyl
$-CH_2O-$	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
$-CH_2O-$	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
$-CH_2O-$	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
$-OCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-OCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-OCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-OCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-OCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-OCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-OCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-OCH_2-$	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl

Y		Column 1	Column 2
-CH=N-OCH(CH_3)-	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
-CH=N-OCH(CH_3)-	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
-CH_2-SC(Et)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(Et)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(Et)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(Et)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(Et)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(=S)NMe-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2SC(SMe)=N-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2SC(SMe)=N-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
-CH_2SC(SMe)=N-	Z =	*t*-Bu	2-naphthalenyl
-CH_2SC(SMe)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl

Y		Column 1	Column 2
$-CH_2SC(SMe)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl

Y		Column 1	Column 2
-CH=N-N=C(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-N=C(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N=C(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N=C(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N=C(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N=C(CH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	3-Et-phenyl	*t*-Bu
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-OCF_3-phenyl	CH_3
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	*t*-Bu	2-naphthalenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
-CH=N-N(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-N(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N(CH_3)-	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
-CH=N-N(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-N(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
-CH_2OC(SMe)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(SMe)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(SMe)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(SMe)=N-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(SMe)=N-	Z =	4-Me-phenyl	3,5-diMe-phenyl

Y		Column 1	Column 2
$-CH_2OC(SMe)=N-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(=S)NMe-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(=S)NMe-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-SCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-SCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-SCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-SCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-SCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-SCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-SCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-SCH_2-$	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 2b

R^3 = Cl

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl

Y		Column 1	Column 2
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-(($(CH_3)_3CC$≡C)-phenyl	3-(($(CH_3)_3SiC$≡C)-phenyl
-O-	Z =	3-(-C≡C)-phenyl	5-Me-2-thienyl
-O-	Z =	5-$(CH_3)_3C$-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-$(CH_3)_3C$-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-$(CH_3)_3C$-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-$(CH_3)_3C$-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl

Y		Column 1	Column 2
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl
-CH_2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
-CH_2O-	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
-CH_2O-	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
-CH_2O-	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
-CH_2O-	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
-CH_2O-	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH_2O-	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
-CH_2O-	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
-CH_2O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
-CH_2O-	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
-CH_2O-	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
-CH_2O-	Z =	1-napthalenyl	2,3,6-triMe-phenyl
-CH_2O-	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
-CH_2O-	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
-CH_2O-	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
-OCH_2-	Z =	2-Me-phenyl	2,5-diMe-phenyl
-OCH_2-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-OCH_2-	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
-OCH_2-	Z =	3-Cl-phenyl	4-Cl-phenyl
-OCH_2-	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
-OCH_2-	Z =	2-naphthalenyl	1-naphthalenyl
-OCH_2-	Z =	3-pyridinyl	4-pyridinyl
-OCH_2-	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
-CH_2O-N=C(CH_3)-	Z =	3-Me-phenyl	4-CF_3-phenyl
-CH_2O-N=C(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2O-N=C(CH_3)-	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
-CH_2O-N=C(CH_3)-	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
-CH_2O-N=C(CH_3)-	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl

Y		Column 1	Column 2
-CH_2O-N=C(CH_3)-	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
-CH_2O-N=C(CH_3)-	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
-CH_2O-N=C(CH_3)-	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
-CH_2O-N=C(CH_3)-	Z =	3-SMe-phenyl	3-ethynylphenyl
-CH_2O-N=C(CH_3)-	Z =	*t*-Bu	2-F-5-CF_3-phenyl
-CH=N-OCH(CH_3)-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH=N-OCH(CH_3)-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH=N-OCH(CH_3)-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH=N-OCH(CH_3)-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH=N-OCH(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-OCH(CH_3)-	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
-CH=N-OCH(CH_3)-	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
-CH_2-SC(Et)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(Et)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(Et)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(Et)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(Et)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl

Y		Column 1	Column 2
$-CH_2-SC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(=S)NMe-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2SC(SMe)=N-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
$-CH_2SC(SMe)=N-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2SC(SMe)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Et-phenyl	*t*-Bu
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-OCF_3-phenyl	CH_3
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl

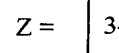
Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
$-CH=N-N(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH=N-N(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N(CH_3)-$	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
$-CH=N-N(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH=N-N(CH_3)-$	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
$-CH=N-N(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N(CH_3)-$	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
$-CH_2OC(SMe)=N-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(SMe)=N-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(SMe)=N-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(SMe)=N-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(SMe)=N-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(SMe)=N-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(=S)NMe-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(=S)NMe-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-SCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-SCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-SCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-SCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-SCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-SCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-SCH_2-$	Z =	3-pyridinyl	4-pyridinyl

Y		Column 1	Column 2
$-SCH_2-$	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 2c

$R^3 = CF_3$

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl

Y		Column 1	Column 2
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-((CH_3)$_3$CC≡C)-phenyl	3-((CH_3)$_3$SiC≡C)-phenyl
-O-	Z =	3-()-phenyl	5-Me-2-thienyl
-O-	Z =	5-(CH_3)$_3$C-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-(CH_3)$_3$C-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-(CH_3)$_3$C-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-(CH_3)$_3$C-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl
-CH_2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
-CH_2O-	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
-CH_2O-	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
-CH_2O-	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
-CH_2O-	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
-CH_2O-	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH_2O-	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
-CH_2O-	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
-CH_2O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
-CH_2O-	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
-CH_2O-	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl

Y		Column 1	Column 2
$-CH_2O-$	Z =	1-napthalenyl	2,3,6-triMe-phenyl
$-CH_2O-$	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
$-CH_2O-$	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
$-CH_2O-$	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
$-OCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-OCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-OCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-OCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-OCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-OCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-OCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-OCH_2-$	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl

Y		Column 1	Column 2
-CH=N-OCH(CH_3)-	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
-CH=N-OCH(CH_3)-	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
-CH_2-SC(Et)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(Et)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(Et)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(Et)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(Et)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(=S)NMe-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2SC(SMe)=N-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2SC(SMe)=N-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
-CH_2SC(SMe)=N-	Z =	*t*-Bu	2-naphthalenyl
-CH_2SC(SMe)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl

Y		Column 1	Column 2
$-CH_2SC(SMe)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl

Y		Column 1	Column 2
-CH=N-N=C(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-N=C(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N=C(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N=C(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N=C(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N=C(CH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	3-Et-phenyl	*t*-Bu
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-OCF_3-phenyl	CH_3
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	*t*-Bu	2-naphthalenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
-CH=N-N(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-N(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N(CH_3)-	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
-CH=N-N(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-N(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
-CH_2OC(SMe)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(SMe)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(SMe)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(SMe)=N-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(SMe)=N-	Z =	4-Me-phenyl	3,5-diMe-phenyl

Y		Column 1	Column 2
$-CH_2OC(SMe)=N-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(=S)NMe-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(=S)NMe-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-SCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-SCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-SCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-SCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-SCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-SCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-SCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-SCH_2-$	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 3a

$R^3 = CH_3$

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl

Y		Column 1	Column 2
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-(($CH_3)_3CC$≡C)-phenyl	3-(($CH_3)_3SiC$≡C)-phenyl
-O-	Z =	3-()-phenyl	5-Me-2-thienyl
-O-	Z =	5-$(CH_3)_3C$-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-$(CH_3)_3C$-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-$(CH_3)_3C$-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-$(CH_3)_3C$-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl

Y		Column 1	Column 2
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl
-CH_2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
-CH_2O-	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
-CH_2O-	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
-CH_2O-	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
-CH_2O-	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
-CH_2O-	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH_2O-	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
-CH_2O-	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
-CH_2O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
-CH_2O-	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
-CH_2O-	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
-CH_2O-	Z =	1-napthalenyl	2,3,6-triMe-phenyl
-CH_2O-	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
-CH_2O-	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
-CH_2O-	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
-OCH_2-	Z =	2-Me-phenyl	2,5-diMe-phenyl
-OCH_2-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-OCH_2-	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
-OCH_2-	Z =	3-Cl-phenyl	4-Cl-phenyl
-OCH_2-	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
-OCH_2-	Z =	2-naphthalenyl	1-naphthalenyl
-OCH_2-	Z =	3-pyridinyl	4-pyridinyl
-OCH_2-	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
-CH_2O-N=C(CH_3)-	Z =	3-Me-phenyl	4-CF_3-phenyl
-CH_2O-N=C(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2O-N=C(CH_3)-	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
-CH_2O-N=C(CH_3)-	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
-CH_2O-N=C(CH_3)-	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
-CH_2O-N=C(CH_3)-	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-OCH(CH_3)-$	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(Et)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl

Y		Column 1	Column 2
$-CH_2-SC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(=S)NMe-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2SC(SMe)=N-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
$-CH_2SC(SMe)=N-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2SC(SMe)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Et-phenyl	*t*-Bu
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-OCF_3-phenyl	CH_3
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl

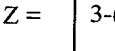
Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
$-CH=N-N(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH=N-N(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N(CH_3)-$	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
$-CH=N-N(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH=N-N(CH_3)-$	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
$-CH=N-N(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N(CH_3)-$	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
$-CH_2OC(SMe)=N-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(SMe)=N-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(SMe)=N-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(SMe)=N-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(SMe)=N-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(SMe)=N-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(=S)NMe-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(=S)NMe-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-SCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-SCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-SCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-SCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-SCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-SCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-SCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-SCH_2-$	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl

Y		Column 1	Column 2
$-CH_2O-N=C(SCH_3)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 3b

R^3 = Cl

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl

Y		Column 1	Column 2
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-((CH_3)$_3$CC≡C)-phenyl	3-((CH_3)$_3$SiC≡C)-phenyl
-O-	Z =	3-()-phenyl	5-Me-2-thienyl
-O-	Z =	5-(CH_3)$_3$C-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-(CH_3)$_3$C-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-(CH_3)$_3$C-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-(CH_3)$_3$C-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl
-CH_2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
-CH_2O-	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
-CH_2O-	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
-CH_2O-	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
-CH_2O-	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
-CH_2O-	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH_2O-	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
-CH_2O-	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
-CH_2O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
-CH_2O-	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
-CH_2O-	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
-CH_2O-	Z =	1-napthalenyl	2,3,6-triMe-phenyl
-CH_2O-	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl

Y		Column 1	Column 2
$-CH_2O-$	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
$-CH_2O-$	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
$-OCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-OCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-OCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-OCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-OCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-OCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-OCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-OCH_2-$	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-OCH(CH_3)-$	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl

Y		Column 1	Column 2
-CH=N-OCH(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
-CH_2-SC(Et)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(Et)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(Et)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(Et)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(Et)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(=S)NMe-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2SC(SMe)=N-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2SC(SMe)=N-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
-CH_2SC(SMe)=N-	Z =	*t*-Bu	2-naphthalenyl
-CH_2SC(SMe)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl

Y		Column 1	Column 2
$-CH_2SC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl

Y		Column 1	Column 2
-CH=N-N=C(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N=C(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N=C(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N=C(CH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	3-Et-phenyl	*t*-Bu
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-OCF_3-phenyl	CH_3
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	*t*-Bu	2-naphthalenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
-CH=N-N(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-N(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N(CH_3)-	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
-CH=N-N(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-N(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
-CH_2OC(SMe)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(SMe)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(SMe)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(SMe)=N-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(SMe)=N-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(SMe)=N-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl

Y		Column 1	Column 2
$-CH_2OC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(=S)NMe-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(=S)NMe-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-SCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-SCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-SCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-SCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-SCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-SCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-SCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-SCH_2-$	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 3c

$R^3 = CF_3$

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl

Y		Column 1	Column 2
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-(($(CH_3)_3CC$≡C)-phenyl	3-(($(CH_3)_3SiC$≡C)-phenyl
-O-	Z =	3-()-phenyl	5-Me-2-thienyl
-O-	Z =	5-$(CH_3)_3C$-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-$(CH_3)_3C$-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-$(CH_3)_3C$-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-$(CH_3)_3C$-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl

Y		Column 1	Column 2
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl
-CH_2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
-CH_2O-	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
-CH_2O-	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
-CH_2O-	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
-CH_2O-	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
-CH_2O-	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH_2O-	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
-CH_2O-	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
-CH_2O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
-CH_2O-	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
-CH_2O-	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
-CH_2O-	Z =	1-napthalenyl	2,3,6-triMe-phenyl
-CH_2O-	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
-CH_2O-	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
-CH_2O-	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
-OCH_2-	Z =	2-Me-phenyl	2,5-diMe-phenyl
-OCH_2-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-OCH_2-	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
-OCH_2-	Z =	3-Cl-phenyl	4-Cl-phenyl
-OCH_2-	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
-OCH_2-	Z =	2-naphthalenyl	1-naphthalenyl
-OCH_2-	Z =	3-pyridinyl	4-pyridinyl
-OCH_2-	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
-CH_2O-N=C(CH_3)-	Z =	3-Me-phenyl	4-CF_3-phenyl
-CH_2O-N=C(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2O-N=C(CH_3)-	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
-CH_2O-N=C(CH_3)-	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
-CH_2O-N=C(CH_3)-	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
-CH_2O-N=C(CH_3)-	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
-CH_2O-N=C(CH_3)-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-OCH(CH_3)-$	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(Et)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl

Y		Column 1	Column 2
$-CH_2-SC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(=S)NMe-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2SC(SMe)=N-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
$-CH_2SC(SMe)=N-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2SC(SMe)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Et-phenyl	*t*-Bu
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-OCF_3-phenyl	CH_3
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl

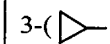
Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
$-CH=N-N(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH=N-N(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N(CH_3)-$	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
$-CH=N-N(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH=N-N(CH_3)-$	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
$-CH=N-N(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N(CH_3)-$	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
$-CH_2OC(SMe)=N-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(SMe)=N-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(SMe)=N-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(SMe)=N-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(SMe)=N-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(SMe)=N-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(=S)NMe-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(=S)NMe-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-SCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-SCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-SCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-SCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-SCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-SCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-SCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-SCH_2-$	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl

Y		Column 1	Column 2
$-CH_2O-N=C(SCH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 4a

$R^3 = CH_3$

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	

Y		Column 1	Column 2
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-((CH_3)$_3$CC≡C)-phenyl	3-((CH_3)$_3$SiC≡C)-phenyl
-O-	Z =	3-()-phenyl	5-Me-2-thienyl
-O-	Z =	5-(CH_3)$_3$C-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-(CH_3)$_3$C-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-(CH_3)$_3$C-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-(CH_3)$_3$C-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl
-CH_2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
-CH_2O-	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
-CH_2O-	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
-CH_2O-	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
-CH_2O-	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
-CH_2O-	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH_2O-	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
-CH_2O-	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
-CH_2O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
-CH_2O-	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
-CH_2O-	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
-CH_2O-	Z =	1-napthalenyl	2,3,6-triMe-phenyl
-CH_2O-	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
-CH_2O-	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl

Y		Column 1	Column 2
$-CH_2O-$	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
$-OCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-OCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-OCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-OCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-OCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-OCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-OCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-OCH_2-$	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-OCH(CH_3)-$	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl

Y		Column 1	Column 2
-CH=N-OCH(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
-CH_2-SC(Et)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(Et)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(Et)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(Et)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(Et)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(=S)NMe-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2SC(SMe)=N-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2SC(SMe)=N-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
-CH_2SC(SMe)=N-	Z =	*t*-Bu	2-naphthalenyl
-CH_2SC(SMe)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl

Y		Column 1	Column 2
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl

Y		Column 1	Column 2
-CH=N-N=C(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N=C(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N=C(CH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	3-Et-phenyl	*t*-Bu
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-OCF_3-phenyl	CH_3
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	*t*-Bu	2-naphthalenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
-CH=N-N(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-N(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N(CH_3)-	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
-CH=N-N(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-N(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
-CH_2OC(SMe)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(SMe)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(SMe)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(SMe)=N-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(SMe)=N-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(SMe)=N-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl

Y		Column 1	Column 2
$-CH_2OC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(=S)NMe-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(=S)NMe-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-SCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-SCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-SCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-SCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-SCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-SCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-SCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-SCH_2-$	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 4b

R^3 = Cl

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl

Y		Column 1	Column 2
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-(($CH_3)_3CC$≡C)-phenyl	3-(($CH_3)_3SiC$≡C)-phenyl
-O-	Z =	3-()-phenyl	5-Me-2-thienyl
-O-	Z =	5-$(CH_3)_3C$-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-$(CH_3)_3C$-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-$(CH_3)_3C$-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-$(CH_3)_3C$-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl

Y		Column 1	Column 2
$-CH_2O-$	Z =	Phenyl	3-CF_3-phenyl
$-CH_2O-$	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
$-CH_2O-$	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
$-CH_2O-$	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
$-CH_2O-$	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
$-CH_2O-$	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
$-CH_2O-$	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2O-$	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
$-CH_2O-$	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-$	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-$	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
$-CH_2O-$	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
$-CH_2O-$	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
$-CH_2O-$	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
$-CH_2O-$	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
$-CH_2O-$	Z =	1-napthalenyl	2,3,6-triMe-phenyl
$-CH_2O-$	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
$-CH_2O-$	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
$-CH_2O-$	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
$-OCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-OCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-OCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-OCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-OCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-OCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-OCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-OCH_2-$	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-OCH(CH_3)-$	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(Et)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl

Y		Column 1	Column 2
$-CH_2-SC(=S)NMe-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(=S)NMe-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2SC(SMe)=N-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
$-CH_2SC(SMe)=N-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2SC(SMe)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Et-phenyl	*t*-Bu
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-OCF_3-phenyl	CH_3
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl

Y		Column 1	Column 2
-CH=N-N(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-N(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N(CH_3)-	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
-CH=N-N(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-N(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
-CH_2OC(SMe)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(SMe)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(SMe)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(SMe)=N-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(SMe)=N-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(SMe)=N-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(=S)NMe-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(=S)NMe-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(=S)NMe-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(=S)NMe-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
-SCH_2-	Z =	2-Me-phenyl	2,5-diMe-phenyl
-SCH_2-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-SCH_2-	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
-SCH_2-	Z =	3-Cl-phenyl	4-Cl-phenyl
-SCH_2-	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
-SCH_2-	Z =	2-naphthalenyl	1-naphthalenyl
-SCH_2-	Z =	3-pyridinyl	4-pyridinyl
-SCH_2-	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
-CH_2O-N=C(SCH_3)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
-CH_2O-N=C(SCH_3)-	Z =	3-Me-phenyl	4-CF_3-phenyl

Y		Column 1	Column 2
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 4c

$R^3 = CF_3$

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl

Y		Column 1	Column 2
-O-	Z =	3-((CH3)3CC≡C)-phenyl	3-((CH3)3SiC≡C)-phenyl
-O-	Z =	3-( C)-phenyl	5-Me-2-thienyl
-O-	Z =	5-(CH3)3C-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-(CH3)3C-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-(CH3)3C-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-(CH3)3C-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF3-phenyl
-CH2O-	Z =	Phenyl	3-CF3-phenyl
-CH2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH3-phenyl
-CH2O-	Z =	4-OCF3-phenyl	2-Me-5-CF3-phenyl
-CH2O-	Z =	3-OCHF2-phenyl	4-OCHF2-phenyl
-CH2O-	Z =	3,5-di(CF3)-phenyl	2-Me-4-OCHF2-phenyl
-CH2O-	Z =	6-CF3-2-pyridinyl	3-OCF3-phenyl
-CH2O-	Z =	4-CF3-2-pyridinyl	4-Me-2-pyridinyl
-CH2O-	Z =	2-Me-4-OCF3-phenyl	5-Me-2-pyridinyl
-CH2O-	Z =	3,6-diMe-2-pyridinyl	5-CF3-2-pyridinyl
-CH2O-	Z =	4,6-diMe-2-pyridinyl	6-OCF3-2-pyridinyl
-CH2O-	Z =	4-CF3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
-CH2O-	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
-CH2O-	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
-CH2O-	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
-CH2O-	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
-CH2O-	Z =	1-napthalenyl	2,3,6-triMe-phenyl
-CH2O-	Z =	6-Cl-2-pyrazinyl	4-CF3-2-pyrimidinyl
-CH2O-	Z =	6-CF3-4-pyrimidinyl	2-*i*-Pr-phenyl
-CH2O-	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl

Y		Column 1	Column 2
$-OCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-OCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-OCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-OCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-OCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-OCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-OCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-OCH_2-$	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-OCH(CH_3)-$	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl

Y		Column 1	Column 2
-CH=N-OCH(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
-CH_2-SC(Et)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(Et)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(Et)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(Et)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(Et)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(=S)NMe-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2SC(SMe)=N-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2SC(SMe)=N-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
-CH_2SC(SMe)=N-	Z =	*t*-Bu	2-naphthalenyl
-CH_2SC(SMe)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2S-	Z =	2-Me-phenyl	3-CF_3-phenyl

Y		Column 1	Column 2
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl

Y		Column 1	Column 2
-CH=N-N=C(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N=C(CH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	3-Et-phenyl	*t*-Bu
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-OCF_3-phenyl	CH_3
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	*t*-Bu	2-naphthalenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
-CH=N-N(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-N(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N(CH_3)-	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
-CH=N-N(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-N(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
-CH_2OC(SMe)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(SMe)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(SMe)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(SMe)=N-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(SMe)=N-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(SMe)=N-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl

Y		Column 1	Column 2
$-CH_2OC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2OC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(=S)NMe-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(=S)NMe-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-SCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-SCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-SCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-SCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-SCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-SCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-SCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-SCH_2-$	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 5a

$R^3 = CH_3$

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl

Y		Column 1	Column 2
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-(($CH_3)_3CC$≡C)-phenyl	3-(($CH_3)_3SiC$≡C)-phenyl
-O-	Z =	3-()-phenyl	5-Me-2-thienyl
-O-	Z =	5-$(CH_3)_3C$-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-$(CH_3)_3C$-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-$(CH_3)_3C$-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-$(CH_3)_3C$-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl

Y		Column 1	Column 2
$-CH_2O-$	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
$-CH_2O-$	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
$-CH_2O-$	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
$-CH_2O-$	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
$-CH_2O-$	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
$-CH_2O-$	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2O-$	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
$-CH_2O-$	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-$	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-$	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
$-CH_2O-$	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
$-CH_2O-$	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
$-CH_2O-$	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
$-CH_2O-$	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
$-CH_2O-$	Z =	1-napthalenyl	2,3,6-triMe-phenyl
$-CH_2O-$	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
$-CH_2O-$	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
$-CH_2O-$	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
$-OCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-OCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-OCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-OCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-OCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-OCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-OCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-OCH_2-$	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-OCH(CH_3)-$	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(Et)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl

Y		Column 1	Column 2
$-CH_2-SC(=S)NMe-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(=S)NMe-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2SC(SMe)=N-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
$-CH_2SC(SMe)=N-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2SC(SMe)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Et-phenyl	*t*-Bu
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-OCF_3-phenyl	CH_3
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
$-CH=N-N(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl

Y		Column 1	Column 2
-CH=N-N(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N(CH_3)-	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
-CH=N-N(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-N(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
-CH_2OC(SMe)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(SMe)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(SMe)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(SMe)=N-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(SMe)=N-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(SMe)=N-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(=S)NMe-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(=S)NMe-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(=S)NMe-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(=S)NMe-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
-SCH_2-	Z =	2-Me-phenyl	2,5-diMe-phenyl
-SCH_2-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-SCH_2-	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
-SCH_2-	Z =	3-Cl-phenyl	4-Cl-phenyl
-SCH_2-	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
-SCH_2-	Z =	2-naphthalenyl	1-naphthalenyl
-SCH_2-	Z =	3-pyridinyl	4-pyridinyl
-SCH_2-	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
-CH_2O-N=C(SCH_3)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
-CH_2O-N=C(SCH_3)-	Z =	3-Me-phenyl	4-CF_3-phenyl
-CH_2O-N=C(SCH_3)-	Z =	4-OCF_3-phenyl	4-Me-phenyl

Y		Column 1	Column 2
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 5b

R^3 = Cl

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-(($CH_3)_3CC$≡C)-phenyl	3-(($CH_3)_3SiC$≡C)-phenyl

Y		Column 1	Column 2
-O-	Z =	3-(C≡C)-phenyl	5-Me-2-thienyl
-O-	Z =	5-$(CH_3)_3C$-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-$(CH_3)_3C$-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-$(CH_3)_3C$-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-$(CH_3)_3C$-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl
-CH_2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl
-CH_2O-	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
-CH_2O-	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
-CH_2O-	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
-CH_2O-	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
-CH_2O-	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH_2O-	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
-CH_2O-	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
-CH_2O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
-CH_2O-	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
-CH_2O-	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
-CH_2O-	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
-CH_2O-	Z =	1-napthalenyl	2,3,6-triMe-phenyl
-CH_2O-	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
-CH_2O-	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
-CH_2O-	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
-OCH_2-	Z =	2-Me-phenyl	2,5-diMe-phenyl

Y		Column 1	Column 2
$-OCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-OCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-OCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-OCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-OCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-OCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-OCH_2-$	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-OCH(CH_3)-$	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl

Y		Column 1	Column 2
-CH=N-OCH(CH_3)-	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
-CH=N-OCH(CH_3)-	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
-CH_2-SC(Et)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(Et)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(Et)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(Et)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(Et)=N-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(Et)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(Et)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
-CH_2-SC(=S)NMe-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2-SC(=S)NMe-	Z =	3,5-diMe-phenyl	2-naphthalenyl
-CH_2-SC(=S)NMe-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2-SC(=S)NMe-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2SC(SMe)=N-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2SC(SMe)=N-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH_2SC(SMe)=N-	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
-CH_2SC(SMe)=N-	Z =	*t*-Bu	2-naphthalenyl
-CH_2SC(SMe)=N-	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
-CH_2SC(SMe)=N-	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
-CH_2S-	Z =	2-Me-phenyl	3-CF_3-phenyl
-CH_2S-	Z =	4-CF_3-phenyl	2,5-diMe-phenyl

Y		Column 1	Column 2
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl

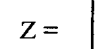
Y		Column 1	Column 2
-CH=N-N=C(CH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
-CH=N-N=C(CH_3)-	Z =	3-Et-phenyl	*t*-Bu
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-OCF_3-phenyl	CH_3
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	*t*-Bu	2-naphthalenyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2O-N=C(CH_3)C(=NOCH_3)-	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
-CH=N-N(CH_3)-	Z =	3-Me-phenyl	4-Me-phenyl
-CH=N-N(CH_3)-	Z =	3,5-diMe-phenyl	3-Cl-phenyl
-CH=N-N(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N(CH_3)-	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
-CH=N-N(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-N(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
-CH_2OC(SMe)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(SMe)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(SMe)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(SMe)=N-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(SMe)=N-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(SMe)=N-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl

Y		Column 1	Column 2
$-CH_2OC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2OC(=S)NMe-$	Z =	3,5-diCl-phenyl	3-Me-phenyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-phenyl	3,5-diMe-phenyl
$-CH_2OC(=S)NMe-$	Z =	2-naphthalenyl	6-Me-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2OC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
$-SCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-SCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-SCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-SCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-SCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-SCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-SCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-SCH_2-$	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(SCH_3)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C$(cyclopropyl)-	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 5c

$R^3 = CF_3$

Y		Column 1	Column 2
-O-	Z =	Phenyl	3-OMe-phenyl
-O-	Z =	4-CF_3-phenyl	3-Me-phenyl
-O-	Z =	3-F-phenyl	3-OCF_3-phenyl
-O-	Z =	4-Me-phenyl	3-I-phenyl
-O-	Z =	3-SCH_3-phenyl	2-Me-phenyl
-O-	Z =	3-$SCHF_2$-phenyl	4-SCH_3-phenyl
-O-	Z =	3-cyclohexyl-phenyl	4-$SCHF_2$-phenyl
-O-	Z =	6-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
-O-	Z =	4-CF_3-2-pyridinyl	6-Me-2-pyridinyl

Y		Column 1	Column 2
-O-	Z =	6-(CF_3CH_2O)-4-pyrimidinyl	5-Me-2-pyridinyl
-O-	Z =	2-(CF_3CH_2O)-4-pyrimidinyl	4-(CF_3CH_2O)-2-pyrimidinyl
-O-	Z =	4-Me-2-pyridinyl	3,5-diMe-phenyl
-O-	Z =	2-naphthalenyl	5,6,7,8-tetrahydro-2-naphthalenyl
-O-	Z =	4-OCF_3-phenyl	3-*t*-Bu-phenyl
-O-	Z =	4-*t*-Bu-phenyl	6-(CF_3CH_2O)-2-pyrazinyl
-O-	Z =	3-SCF_3-phenyl	4-SCF_3-phenyl
-O-	Z =	4-CF_3-6-Me-2-pyridinyl	3-CN-phenyl
-O-	Z =	4,6-diMe-2-pyridinyl	3,5-di(CF_3)-phenyl
-O-	Z =	5-Cl-2-thiazolyl	5-I-2-thiazolyl
-O-	Z =	5-OCF_3-2-thiazolyl	5-$(CH_3)_3Si$-2-thiazolyl
-O-	Z =	5-CN-2-thiazolyl	5-SCH_3-2-thiazolyl
-O-	Z =	5-CF_3-2-thiazolyl	4-Me-5-Cl-2-thiazolyl
-O-	Z =	4-Me-5-I-2-thiazolyl	4-Me-5-CN-2-thiazolyl
-O-	Z =	4-Me-5-CF_3-2-thiazolyl	
-O-	Z =	3-(HC≡C)-phenyl	3-(CH_3C≡C)-phenyl
-O-	Z =	3-($(CH_3)_3CC$≡C)-phenyl	3-($(CH_3)_3SiC$≡C)-phenyl
-O-	Z =	3-()-phenyl	5-Me-2-thienyl
-O-	Z =	5-$(CH_3)_3C$-2-thienyl	5-Cl-2-thienyl
-O-	Z =	5-Br-2-thienyl	5-I-2-thienyl
-O-	Z =	4-Me-2-thienyl	4-$(CH_3)_3C$-2-thienyl
-O-	Z =	4-Cl-2-thienyl	4-Br-2-thienyl
-O-	Z =	4-I-2-thienyl	4,5-diMe-2-thienyl
-O-	Z =	4-Me-5-Cl-2-thienyl	4-Me-5-Br-2-thienyl
-O-	Z =	4-Me-5-I-2-thienyl	3-Cl-2-thienyl
-O-	Z =	5-Me-3-thienyl	5-$(CH_3)_3C$-3-thienyl
-O-	Z =	5-Cl-3-thienyl	5-Br-3-thienyl
-O-	Z =	5-I-3-thienyl	4-Me-3-thienyl
-O-	Z =	4-$(CH_3)_3C$-3-thienyl	4-Cl-3-thienyl
-O-	Z =	4-Br-3-thienyl	4-I-3-thienyl
-O-	Z =	4,5-diMe-3-thienyl	4-Me-5-Cl-3-thienyl
-O-	Z =	4-Me-5-Br-3-thienyl	4-Me-5-I-3-thienyl
-O-	Z =	2-Cl-3-thienyl	2-CF_3-phenyl
-CH_2O-	Z =	Phenyl	3-CF_3-phenyl
-CH_2O-	Z =	2-Me-5-*i*-Pr-phenyl	2-Me-4-OCH_3-phenyl

Y		Column 1	Column 2
$-CH_2O-$	Z =	4-OCF_3-phenyl	2-Me-5-CF_3-phenyl
$-CH_2O-$	Z =	3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl
$-CH_2O-$	Z =	3,5-di(CF_3)-phenyl	2-Me-4-$OCHF_2$-phenyl
$-CH_2O-$	Z =	6-CF_3-2-pyridinyl	3-OCF_3-phenyl
$-CH_2O-$	Z =	4-CF_3-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2O-$	Z =	2-Me-4-OCF_3-phenyl	5-Me-2-pyridinyl
$-CH_2O-$	Z =	3,6-diMe-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-$	Z =	4,6-diMe-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-$	Z =	4-CF_3-6-Me-2-pyridinyl	3-Me-2-pyridinyl
$-CH_2O-$	Z =	4-Cl-2-pyrimidinyl	6-Me-2-pyridinyl
$-CH_2O-$	Z =	4-Cl-2-pyrimidinyl	3-Et-phenyl
$-CH_2O-$	Z =	2,6-diMe-4-pyridinyl	2,4,6-triMe-phenyl
$-CH_2O-$	Z =	3-Cl-2-pyridinyl	6-Cl-4-pyrimidinyl
$-CH_2O-$	Z =	1-napthalenyl	2,3,6-triMe-phenyl
$-CH_2O-$	Z =	6-Cl-2-pyrazinyl	4-CF_3-2-pyrimidinyl
$-CH_2O-$	Z =	6-CF_3-4-pyrimidinyl	2-*i*-Pr-phenyl
$-CH_2O-$	Z =	3-Me-2-pyridinyl	4-Cl-2-pyridinyl
$-OCH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-OCH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-OCH_2-$	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
$-OCH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-OCH_2-$	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
$-OCH_2-$	Z =	2-naphthalenyl	1-naphthalenyl
$-OCH_2-$	Z =	3-pyridinyl	4-pyridinyl
$-OCH_2-$	Z =	6-Me-2-pyridinyl	2-(5,6,7,8-tetrahydro)naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Br-phenyl	3,5-di(CF_3)-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-phenyl	4-*t*-Bu-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-*t*-Bu-phenyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-$OCHF_2$-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-Me-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	6-OMe-2-pyridinyl	2,6-diMe-4-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	2,6-diCl-4-pyridinyl	5-OCF_3-2-pyridinyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)-$	Z =	4-OMe-2-pyridinyl	4-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-OCF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)-$	Z =	4-$OCHF_2$-pyridinyl	3-(CF_3CH_2O)phenyl
$-CH_2O-N=C(CH_3)-$	Z =	6-$OCHF_2$-2-pyridinyl	3-Et-phenyl
$-CH_2O-N=C(CH_3)-$	Z =	1-naphthalenyl	1,2,3,4-tetrahydro-2-naphthalenyl
$-CH_2O-N=C(CH_3)-$	Z =	3-SMe-phenyl	3-ethynylphenyl
$-CH_2O-N=C(CH_3)-$	Z =	*t*-Bu	2-F-5-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-OCH(CH_3)-$	Z =	2-naphthalenyl	4-$OCHF_2$-phenyl
$-CH=N-OCH(CH_3)-$	Z =	3-$OCHF_2$-phenyl	4-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-Me-2-pyridinyl	4-CF_3-6-Me-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	4-OCF_3-2-pyridinyl	5-OCF_3-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	6-OCF_3-2-pyridinyl	4-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	5-$OCHF_2$-2-pyridinyl	6-$OCHF_2$-2-pyridinyl
$-CH=N-OCH(CH_3)-$	Z =	3-*t*-Bu-phenyl	4-*t*-Bu-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(Et)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2-SC(Et)=N-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(Et)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(Et)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4-CF_3-phenyl	3-CF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3,5-diCl-phenyl	3,5-di(CF_3)-phenyl
$-CH_2-SC(=S)NMe-$	Z =	3-Me-phenyl	4-Me-phenyl

Y		Column 1	Column 2
$-CH_2-SC(=S)NMe-$	Z =	3,5-diMe-phenyl	2-naphthalenyl
$-CH_2-SC(=S)NMe-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2-SC(=S)NMe-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2SC(SMe)=N-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2SC(SMe)=N-$	Z =	3,5-di(CF_3)-phenyl	CH_2CH_2-*t*-Bu
$-CH_2SC(SMe)=N-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2SC(SMe)=N-$	Z =	6-Me-2-pyridinyl	4-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diMe-2-pyridinyl	5-Cl-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	4,6-diCl-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2SC(SMe)=N-$	Z =	5-CF_3-2-pyridinyl	5-Br-6-Me-2-pyridinyl
$-CH_2S-$	Z =	2-Me-phenyl	3-CF_3-phenyl
$-CH_2S-$	Z =	4-CF_3-phenyl	2,5-diMe-phenyl
$-CH_2S-$	Z =	2-Et-phenyl	3-Cl-phenyl
$-CH_2S-$	Z =	2-Cl-phenyl	2,5-diCl-phenyl
$-CH_2S-$	Z =	4,6-diMe-2-pyrimidinyl	4-Me-1,2,4-triazol-3-yl
$-CH_2S-$	Z =	2-naphthalenyl	1-Me-2-imidazolyl
$-CH_2S-$	Z =	4-Me-2-pyrimidinyl	5-Me-1,3,4-thiadiazol-2-yl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	3-Cl-phenyl	2-Et-phenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	4-Cl-phenyl	2-naphthalenyl
$-CH_2O-N=C(CH_3)CH_2S-$	Z =	2,5-diMe-phenyl	4-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Me-phenyl	2-Me-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-phenyl	3-CF_3-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-phenyl	4-Cl-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Cl-phenyl	3,5-diMe-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2,5-diMe-phenyl	2-Me-5-*i*-Pr-phenyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	3-Et-phenyl	6-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	6-Me-2-pyridinyl	5-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	4-Me-2-pyridinyl	1-naphthalenyl

Y		Column 1	Column 2
$-CH_2O-N=C(CH_3)CH_2O-$	Z =	2-naphthalenyl	2-CF_3-phenyl
$-CH_2CH_2-$	Z =	2-Me-phenyl	2,5-diMe-phenyl
$-CH_2CH_2-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2CH_2-$	Z =	3-Cl-phenyl	4-Cl-phenyl
$-CH_2CH_2-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH_2CH_2-$	Z =	2-Et-phenyl	2-Me-5-Cl-phenyl
$-CH_2CH_2-$	Z =	2-naphthalenyl	3,6-diMe-2-pyridinyl
$-CH=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=C(CH_3)-$	Z =	4-Cl-phenyl	3-OCF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-OCF_3-phenyl	3-CF_3-phenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-phenyl	2-naphthalenyl
$-CH=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
$-CH=N-N=C(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH=N-N=C(CH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	6-CF_3-2-pyridinyl	4-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	2-naphthalenyl	4,6-diMe-2-pyridinyl
$-CH=N-N=C(CH_3)-$	Z =	3-Et-phenyl	*t*-Bu
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-Cl-phenyl	3,5-diCl-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3-CF_3-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	3,5-di(CF_3)-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-OCF_3-phenyl	CH_3
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	*t*-Bu	2-naphthalenyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-*t*-Bu-phenyl	4-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	5-Me-2-pyridinyl	6-Me-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyridinyl	5-CF_3-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	6-CF_3-2-pyridinyl	4,6-diMe-2-pyridinyl
$-CH_2O-N=C(CH_3)C(=NOCH_3)-$	Z =	4-CF_3-2-pyrimidinyl	6-CF_3-2-pyrimidinyl
$-CH=N-N(CH_3)-$	Z =	3-Me-phenyl	4-Me-phenyl
$-CH=N-N(CH_3)-$	Z =	3,5-diMe-phenyl	3-Cl-phenyl

Y		Column 1	Column 2
-CH=N-N(CH_3)-	Z =	4-Cl-phenyl	3,5-diCl-phenyl
-CH=N-N(CH_3)-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-CH=N-N(CH_3)-	Z =	3-OCF_3-phenyl	4-OCF_3-phenyl
-CH=N-N(CH_3)-	Z =	2-naphthalenyl	4-*t*-Bu-phenyl
-CH=N-N(CH_3)-	Z =	4-Me-2-pyridinyl	5-Me-2-pyridinyl
-CH=N-N(CH_3)-	Z =	6-Me-2-pyridinyl	4-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	5-CF_3-2-pyridinyl	6-CF_3-2-pyridinyl
-CH=N-N(CH_3)-	Z =	4,6-diMe-2-pyridinyl	4-CF_3-2-pyrimidinyl
-CH_2OC(SMe)=N-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(SMe)=N-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(SMe)=N-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(SMe)=N-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(SMe)=N-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(SMe)=N-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2OC(SMe)=N-	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	4-CF_3-phenyl	3-CF_3-phenyl
-CH_2OC(=S)NMe-	Z =	4-OCF_3-phenyl	3-OCF_3-phenyl
-CH_2OC(=S)NMe-	Z =	3-Cl-phenyl	4-Cl-phenyl
-CH_2OC(=S)NMe-	Z =	3,5-diCl-phenyl	3-Me-phenyl
-CH_2OC(=S)NMe-	Z =	4-Me-phenyl	3,5-diMe-phenyl
-CH_2OC(=S)NMe-	Z =	2-naphthalenyl	6-Me-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	4-Me-2-pyridinyl	4,6-diMe-2-pyridinyl
-CH_2OC(=S)NMe-	Z =	5-CF_3-2-pyridinyl	5-Me-2-pyridinyl
-SCH_2-	Z =	2-Me-phenyl	2,5-diMe-phenyl
-SCH_2-	Z =	3-CF_3-phenyl	4-CF_3-phenyl
-SCH_2-	Z =	4-Me-phenyl	4-*t*-Bu-phenyl
-SCH_2-	Z =	3-Cl-phenyl	4-Cl-phenyl
-SCH_2-	Z =	2-Me-5-Cl-phenyl	3-*t*-Bu-phenyl
-SCH_2-	Z =	2-naphthalenyl	1-naphthalenyl
-SCH_2-	Z =	3-pyridinyl	4-pyridinyl
-SCH_2-	Z =	6-Me-2-pyridinyl	5,6,7,8-tetrahydro-2-naphthalenyl
-CH_2O-N=C(SCH_3)-	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
-CH_2O-N=C(SCH_3)-	Z =	3-Me-phenyl	4-CF_3-phenyl
-CH_2O-N=C(SCH_3)-	Z =	4-OCF_3-phenyl	4-Me-phenyl
-CH_2O-N=C(SCH_3)-	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Y		Column 1	Column 2
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-CF_3-phenyl	3-OCF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Me-phenyl	4-CF_3-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	4-OCF_3-phenyl	4-Me-phenyl
$-CH_2O-N=C(cyclopropyl)-$	Z =	3-Cl-phenyl	3,5-diCl-phenyl

Table 6a

T = T^1, W = O, R^2 = CH_3, G = N, A = N, the floating double bond is attached to A, X = OCH_3 and R^3 = CH_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

T = T^1, W = O, R^2 = CH_3, G = N, A = N, the floating double bond is attached to A, X = OCH_3 and R^3 = Cl

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

T = T^1, W = O, R^2 = CH_3, G = N, A = N, the floating double bond is attached to A, X = OCH_3 and R^3 = CF_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

Table 6b

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^3 = CH_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^3 = Cl

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^3 = CF_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

Table 6c

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^3 = CH_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl

R^9	R^9	R^9	R^9
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^3 = Cl

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^3 = CF_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

Table 6d

T = T^4, R^1 = CH_3, R^6 = H, R^5 = CH_3 and R^3 = CH_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

T = T^4, R^1 = CH_3, R^6 = H, R^5 = CH_3 and R^3 = Cl

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

T = T^4, R^1 = CH_3, R^6 = H, R^5 = CH_3 and R^3 = CF_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl

Table 7a

T = T^1, W = O, R^2 = CH_3, G = N, A = N, the floating double bond is attached to A, X = OCH_3 and No R^{10} substituent (i.e., H)

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

T = T^1, W = O, R^2 = CH_3, G = N, A = N, the floating double bond is attached to A, X = OCH_3 and R^{10} = Br

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

T = T^1, W = O, R^2 = CH_3, G = N, A = N, the floating double bond is attached to A, X = OCH_3 and R^{10} = CH_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

Table 7b

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and No R^{10} substituent (i.e., H)

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^{10} = Br

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^{10} = CH_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

Table 7c

T = T^3, R^1 = CH_3, R^5 = CH_3 and No R^{10} substituent (i.e., H)

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^{10} = Br

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^{10} = CH_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

Table 7d

T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H and No R^{10} substituent (i.e., H)

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H and R^{10} = Br

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H and R^{10} = CH_3

R^9	R^9	R^9	R^9
3-Me-phenyl	4-Me-phenyl	3-CF_3-phenyl	4-CF_3-phenyl
3-OCF_3-phenyl	4-OCF_3-phenyl	3,5-di(CF_3)-phenyl	3,5-diMe-phenyl
3-$OCHF_2$-phenyl	4-$OCHF_2$-phenyl	3-SCF_3-phenyl	4-SCF_3-phenyl
3-$SCHF_2$-phenyl	4-$SCHF_2$-phenyl	3-Cl-phenyl	4-Cl-phenyl
3,5-diCl-phenyl	3-Cl-4-Me-phenyl	3,4-diCl-phenyl	3-Br-phenyl
3-SMe-phenyl	4-SMe-phenyl	3-C≡CH-phenyl	4-C≡CH-phenyl
t-Bu	CF_3	3,5-diF-phenyl	3-cyclopropyl-phenyl
CH_3	I	Br	Cl
CN	No R^9 substituent (i.e., H)		

Table 8a

T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3 and R^3 = CH_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3 and R^3 = Cl

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3 and R^3 = CF_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

Table 8b

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^3 = CH_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^3 = Cl

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^3 = CF_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

Table 8c

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^3 = CH_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^3 = Cl

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^3 = CF_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

Table 8d

T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H and R^3 = CH_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H and R^3 = Cl

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H and R^3 = CF_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

Table 9a

T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, $R^2 = CH_3$, X = OCH_3 and $R^3 = CH_3$

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, $R^2 = CH_3$, X = OCH_3 and R^3 = Cl

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, $R^2 = CH_3$, X = OCH_3 and $R^3 = CF_3$

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

Table 9b

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^3 = CH_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^3 = Cl

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3 and R^3 = CF_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

Table 9c

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^3 = CH_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^3 = Cl

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^3, R^1 = CH_3, R^5 = CH_3 and R^3 = CF_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

Table 9d

T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H and R^3 = CH_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H and R^3 = Cl

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H and R^3 = CF_3

R^{12}	R^{13}	R^{12}	R^{13}	R^{12}	R^{13}
No R^{12} (i.e., H)	2-CN	2-F	4,6-diF	2-Cl	6-Cl
2-Me	No R^{13} (i.e., H)	2-F	3,5,6-triF	2-F	5-F
2-Cl	No R^{13} (i.e., H)	2-Cl	4,6-diF	2-F	6-F
2-F	No R^{13} (i.e., H)	4-Br	2,6-diF	2-F	4-F
2-OMe	No R^{13} (i.e., H)	4-I	2,6-diF	2-Et	No R^{13} (i.e., H)
2-Br	No R^{13} (i.e., H)	2-F	3,6-diF	4-Me	2,6-diCl
2-SMe	No R^{13} (i.e., H)	2-F	4,5-diF	4-Me	2,6-diF

Table 10

		Column 1	Column 2
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = CH_3	Y^1 =	OH	OSO_2CH_3
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = CH_3	Y^1 =	CHO	CH_2Cl
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = CH_3	Y^1 =	CH_2Br	CH_2I
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = CH_3	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = Cl	Y^1 =	OH	OSO_2CH_3
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = Cl	Y^1 =	CHO	CH_2Cl
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = Cl	Y^1 =	CH_2Br	CH_2I
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = Cl	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$

		Column 1	Column 2
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = CF_3	Y^1 =	OH	OSO_2CH_3
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = CF_3	Y^1 =	CHO	CH_2Cl
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = CF_3	Y^1 =	CH_2Br	CH_2I
T = T^1, W = O, G = N, A = N, the floating double bond is attached to A, R^2 = CH_3, X = OCH_3, R^3 = CF_3	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = CH_3	Y^1 =	OH	OSO_2CH_3
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = CH_3	Y^1 =	CHO	CH_2Cl
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = CH_3	Y^1 =	CH_2Br	CH_2I
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = CH_3	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = Cl	Y^1 =	OH	OSO_2CH_3
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = Cl	Y^1 =	CHO	CH_2Cl
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = Cl	Y^1 =	CH_2Br	CH_2I
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = Cl	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = CF_3	Y^1 =	OH	OSO_2CH_3
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = CF_3	Y^1 =	CHO	CH_2Cl
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = CF_3	Y^1 =	CH_2Br	CH_2I
T = T^2, R^1 = CH_3, s = 1, R^5 = CH_3, R^3 = CF_3	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = CH_3	Y^1 =	OH	OSO_2CH_3
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = CH_3	Y^1 =	CHO	CH_2Cl
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = CH_3	Y^1 =	CH_2Br	CH_2I
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = CH_3	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = Cl	Y^1 =	OH	OSO_2CH_3
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = Cl	Y^1 =	CHO	CH_2Cl
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = Cl	Y^1 =	CH_2Br	CH_2I
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = Cl	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = CF_3	Y^1 =	OH	OSO_2CH_3
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = CF_3	Y^1 =	CHO	CH_2Cl
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = CF_3	Y^1 =	CH_2Br	CH_2I
T = T^3, R^1 = CH_3, R^5 = CH_3, R^3 = CF_3	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$
T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H, R^3 = CH_3	Y^1 =	OH	OSO_2CH_3
T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H, R^3 = CH_3	Y^1 =	CHO	CH_2Cl
T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H, R^3 = CH_3	Y^1 =	CH_2Br	CH_2I
T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H, R^3 = CH_3	Y^1 =	CH_2OH	$CH_2OSO_2CH_3$
T = T^4, R^1 = CH_3, R^5 = CH_3, R^6 = H, R^3 = Cl	Y^1 =	OH	OSO_2CH_3

		Column 1	Column 2
$T = T^4$, $R^1 = CH_3$, $R^5 = CH_3$, $R^6 = H$, $R^3 = Cl$	$Y^1 =$	CHO	CH_2Cl
$T = T^4$, $R^1 = CH_3$, $R^5 = CH_3$, $R^6 = H$, $R^3 = Cl$	$Y^1 =$	CH_2Br	CH_2I
$T = T^4$, $R^1 = CH_3$, $R^5 = CH_3$, $R^6 = H$, $R^3 = Cl$	$Y^1 =$	CH_2OH	$CH_2OSO_2CH_3$
$T = T^4$, $R^1 = CH_3$, $R^5 = CH_3$, $R^6 = H$, $R^3 = CF_3$	$Y^1 =$	OH	OSO_2CH_3
$T = T^4$, $R^1 = CH_3$, $R^5 = CH_3$, $R^6 = H$, $R^3 = CF_3$	$Y^1 =$	CHO	CH_2Cl
$T = T^4$, $R^1 = CH_3$, $R^5 = CH_3$, $R^6 = H$, $R^3 = CF_3$	$Y^1 =$	CH_2Br	CH_2I
$T = T^4$, $R^1 = CH_3$, $R^5 = CH_3$, $R^6 = H$, $R^3 = CF_3$	$Y^1 =$	CH_2OH	$CH_2OSO_2CH_3$

Formulation/Utility

Compounds of this invention will generally be used as a formulation or composition with an agriculturally suitable carrier comprising at least one of a liquid diluent, a solid diluent or a surfactant. The formulation or composition ingredients are selected to be consistent with the physical properties of the active ingredient, mode of application and environmental factors such as soil type, moisture and temperature. Useful formulations include liquids such as solutions (including emulsifiable concentrates), suspensions, emulsions (including microemulsions and/or suspoemulsions) and the like which optionally can be thickened into gels. Useful formulations further include solids such as dusts, powders, granules, pellets, tablets, films, and the like which can be water-dispersible ("wettable") or water-soluble. Active ingredient can be (micro)encapsulated and further formed into a suspension or solid formulation; alternatively the entire formulation of active ingredient can be encapsulated (or "overcoated"). Encapsulation can control or delay release of the active ingredient. Sprayable formulations can be extended in suitable media and used at spray volumes from about one to several hundred liters per hectare. High-strength compositions are primarily used as intermediates for further formulation.

The formulations will typically contain effective amounts of active ingredient, diluent and surfactant within the following approximate ranges which add up to 100 percent by weight.

	Weight Percent		
	Active Ingredient	Diluent	Surfactant
Water-Dispersible and Water-soluble Granules, Tablets and Powders.	5–90	0–94	1–15
Suspensions, Emulsions, Solutions (including Emulsifiable Concentrates)	5–50	40–95	0–15
Dusts	1–25	70–99	0–5
Granules and Pellets	0.01–99	5–99.99	0–15
High Strength Compositions	90–99	0–10	0–2

Typical solid diluents are described in Watkins, et al., *Handbook of Insecticide Dust Diluents and Carriers*, 2nd Ed., Dorland Books, Caldwell, New Jersey. Typical liquid diluents are described in Marsden, *Solvents Guide*, 2nd Ed., Interscience, New York, 1950. *McCutcheon's Detergents and Emulsifiers Annual*, Allured Publ. Corp., Ridgewood, New Jersey, as well as Sisely and Wood, *Encyclopedia of Surface Active Agents*, Chemical Publ. Co., Inc., New York, 1964, list surfactants and recommended uses. All formulations can contain minor amounts of additives to reduce foam, caking, corrosion, microbiological growth and the like, or thickeners to increase viscosity.

Surfactants include, for example, polyethoxylated alcohols, polyethoxylated alkylphenols, polyethoxylated sorbitan fatty acid esters, dialkyl sulfosuccinates, alkyl sulfates, alkylbenzene sulfonates, organosilicones, *N,N*-dialkyltaurates, lignin sulfonates, naphthalene sulfonate formaldehyde condensates, polycarboxylates, and polyoxyethylene/polyoxypropylene block copolymers. Solid diluents include, for example, clays such as bentonite, montmorillonite, attapulgite and kaolin, starch, sugar, silica, talc, diatomaceous earth, urea, calcium carbonate, sodium carbonate and bicarbonate, and sodium sulfate. Liquid diluents include, for example, water, *N,N*-dimethylformamide, dimethyl sulfoxide, *N*-alkylpyrrolidone, ethylene glycol, polypropylene glycol, paraffins, alkylbenzenes, alkylnaphthalenes, oils of olive, castor, linseed, tung, sesame, corn, peanut, cotton-seed, soybean, rape-seed and coconut, fatty acid esters, ketones such as cyclohexanone, 2-heptanone, isophorone and 4-hydroxy-4-methyl-2-pentanone, and alcohols such as methanol, cyclohexanol, decanol and tetrahydrofurfuryl alcohol.

Solutions, including emulsifiable concentrates, can be prepared by simply mixing the ingredients. Dusts and powders can be prepared by blending and, usually, grinding as in a hammer mill or fluid-energy mill. Suspensions are usually prepared by wet-milling; see, for example, U.S. 3,060,084. Granules and pellets can be prepared by spraying the active material upon preformed granular carriers or by agglomeration techniques. See Browning, "Agglomeration", *Chemical Engineering*, December 4, 1967, pp 147-48, *Perry's Chemical Engineer's Handbook*, 4th Ed., McGraw-Hill, New York, 1963, pages 8-57 and following, and WO 91/13546. Pellets can be prepared as described in U.S. 4,172,714. Water-dispersible and water-soluble granules can be prepared as taught in U.S. 4,144,050, U.S. 3,920,442 and DE 3,246,493. Tablets can be prepared as taught in U.S. 5,180,587, U.S. 5,232,701 and U.S. 5,208,030. Films can be prepared as taught in GB 2,095,558 and U.S. 3,299,566.

For further information regarding the art of formulation, see U.S. 3,235,361, Col. 6, line 16 through Col. 7, line 19 and Examples 10-41; U.S. 3,309,192, Col. 5, line 43 through Col. 7, line 62 and Examples 8, 12, 15, 39, 41, 52, 53, 58, 132, 138-140, 162-164, 166, 167 and 169-182; U.S. 2,891,855, Col. 3, line 66 through Col. 5, line 17 and Examples 1-4; Klingman, *Weed Control as a Science*, John Wiley and Sons, Inc., New York, 1961,

pp 81-96; and Hance et al., *Weed Control Handbook*, 8th Ed., Blackwell Scientific Publications, Oxford, 1989.

In the following Examples, all percentages are by weight and all formulations are prepared in conventional ways. Compound numbers refer to compounds in Index Tables A-D.

Example A

Wettable Powder

Compound 3	65.0%
dodecylphenol polyethylene glycol ether	2.0%
sodium ligninsulfonate	4.0%
sodium silicoaluminate	6.0%
montmorillonite (calcined)	23.0%.

Example B

Granule

Compound 8	10.0%
attapulgite granules (low volatile matter, 0.71/0.30 mm; U.S.S. No. 25–50 sieves)	90.0%.

Example C

Extruded Pellet

Compound 9	25.0%
anhydrous sodium sulfate	10.0%
crude calcium ligninsulfonate	5.0%
sodium alkylnaphthalenesulfonate	1.0%
calcium/magnesium bentonite	59.0%.

Example D

Emulsifiable Concentrate

Compound 10	20.0%
blend of oil soluble sulfonates and polyoxyethylene ethers	10.0%
isophorone	70.0%.

The compounds of this invention are useful as plant disease control agents. The present invention therefore further comprises a method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof to be protected, or to the plant seed or seedling to be protected, an effective amount of a compound of the invention or a fungicidal composition containing said compound. The compounds and compositions of this invention provide control of diseases caused by a broad spectrum of fungal plant pathogens in the Basidiomycete, Ascomycete, Oomycete and Deuteromycete classes. They are effective in controlling a broad spectrum of plant diseases, particularly

foliar pathogens of ornamental, vegetable, field, cereal, and fruit crops. These pathogens include *Plasmopara viticola, Phytophthora infestans, Peronospora tabacina, Pseudoperonospora cubensis, Pythium aphanidermatum, Alternaria brassicae, Septoria nodorum, Septoria tritici, Cercosporidium personatum, Cercospora arachidicola, Pseudocercosporella herpotrichoides, Cercospora beticola, Botrytis cinerea, Monilinia fructicola, Pyricularia oryzae, Podosphaera leucotricha, Venturia inaequalis, Erysiphe graminis, Uncinula necatur, Puccinia recondita, Puccinia graminis, Hemileia vastatrix, Puccinia striiformis, Puccinia arachidis, Rhizoctonia solani, Sphaerotheca fuliginea, Fusarium oxysporum, Verticillium dahliae, Pythium aphanidermatum, Phytophthora megasperma, Sclerotinia sclerotiorum, Sclerotium rolfsii, Erysiphe polygoni, Pyrenophora teres, Gaeumannomyces graminis, Rynchosporium secalis, Fusarium roseum, Bremia lactucae* and other generea and species closely related to these pathogens.

The compounds of this invention also exhibit activity against a wide spectrum of foliar-feeding, fruit-feeding, stem or root feeding, seed-feeding, aquatic and soil-inhabiting arthropods (term "arthropods" includes insects, mites and nematodes) which are pests of growing and stored agronomic crops, forestry, greenhouse crops, ornamentals, nursery crops, stored food and fiber products, livestock, household, and public and animal health. Those skilled in the art will appreciate that not all compounds are equally effective against all growth stages of all pests. Nevertheless, all of the compounds of this invention display activity against pests that include: eggs, larvae and adults of the Order Lepidoptera; eggs, foliar-feeding, fruit-feeding, root-feeding, seed-feeding larvae and adults of the Order Coleoptera; eggs, immatures and adults of the Orders Hemiptera and Homoptera; eggs, larvae, nymphs and adults of the Order Acari; eggs, immatures and adults of the Orders Thysanoptera, Orthoptera and Dermaptera; eggs, immatures and adults of the Order Diptera; and eggs, juveniles and adults of the Phylum Nematoda. The compounds of this invention are also active against pests of the Orders Hymenoptera, Isoptera, Siphonaptera, Blattaria, Thysanura and Psocoptera; pests belonging to the Class Arachnida and Phylum Platyhelminthes. Specifically, the compounds are active against southern corn rootworm (*Diabrotica undecimpunctata howardi*), aster leafhopper (*Mascrosteles fascifrons*), boll weevil (*Anthonomus grandis*), two-spotted spider mite (*Tetranychus urticae*), fall armyworm (*Spodoptera frugiperda*), black bean aphid (*Aphis fabae*), green peach aphid (*Myzus persica*), cotton aphid (*Aphis gossypii*), Russian wheat aphid (*Diuraphis noxia*), English grain aphid (*Sitobion avenae*), tobacco budworm (*Heliothis virescens*), rice water weevil (*Lissorhoptrus oryzophilus*), rice leaf beetle (*Oulema oryzae*), whitebacked planthopper (*Sogatella furcifera*), green leafhopper (*Nephotettix cincticeps*), brown planthopper (*Nilaparvata lugens*), small brown planthopper (*Laodelphax striatellus*), rice stem borer (*Chilo suppressalis*), rice leafroller (*Cnaphalocrocis medinalis*), black rice stink bug (*Scotinophara lurida*), rice stink bug (*Oebalus pugnax*), rice bug (*Leptocorisa chinensis*),

slender rice bug (*Cletus puntiger*), and southern green stink bug (*Nezara viridula*). The compounds are active on mites, demonstrating ovicidal, larvicidal and chemosterilant activity against such families as Tetranychidae including *Tetranychus urticae, Tetranychus cinnabarinus, Tetranychus mcdanieli, Tetranychus pacificus, Tetranychus turkestani, Byrobia rubrioculus, Panonychus ulmi, Panonychus citri, Eotetranychus carpini borealis, Eotetranychus, hicoriae, Eotetranychus sexmaculatus, Eotetranychus yumensis, Eotetranychus banksi* and *Oligonychus pratensis*; Tenuipalpidae including *Brevipalpus lewisi, Brevipalpus phoenicis, Brevipalpus californicus* and *Brevipalpus obovatus*; Eriophyidae including *Phyllocoptruta oleivora, Eriophyes sheldoni, Aculus cornutus, Epitrimerus pyri* and *Eriophyes mangiferae*. See WO 90/10623 and WO 92/00673 for more detailed pest descriptions.

Compounds of this invention can also be mixed with one or more other insecticides, fungicides, nematocides, bactericides, acaricides, growth regulators, chemosterilants, semiochemicals, repellents, attractants, pheromones, feeding stimulants or other biologically active compounds to form a multi-component pesticide giving an even broader spectrum of agricultural protection. Examples of such agricultural protectants with which compounds of this invention can be formulated are: insecticides such as abamectin, acephate, azinphos-methyl, bifenthrin, buprofezin, carbofuran, chlorfenapyr, chlorpyrifos, chlorpyrifos-methyl, cyfluthrin, beta-cyfluthrin, cyhalothrin, lambda-cyhalothrin, deltamethrin, diafenthiuron, diazinon, diflubenzuron, dimethoate, esfenvalerate, fenoxycarb, fenpropathrin, fenvalerate, fipronil, flucythrinate, tau-fluvalinate, fonophos, imidacloprid, isofenphos, malathion, metaldehyde, methamidophos, methidathion, methomyl, methoprene, methoxychlor, methyl 7-chloro-2,5-dihydro-2-[[*N*-(methoxycarbonyl)-*N*-[4-(trifluoromethoxy)phenyl]amino]carbonyl]indeno[1,2-*e*][1,3,4]oxadiazine-4a(3*H*)-carboxylate (DPX-JW062), monocrotophos, oxamyl, parathion, parathion-methyl, permethrin, phorate, phosalone, phosmet, phosphamidon, pirimicarb, profenofos, rotenone, sulprofos, tebufenozide, tefluthrin, terbufos, tetrachlorvinphos, thiodicarb, tralomethrin, trichlorfon and triflumuron; fungicides such as azoxystrobin, benomyl, blasticidin-S, Bordeaux mixture (tribasic copper sulfate), bromuconazole, captafol, captan, carbendazim, chloroneb, chlorothalonil, copper oxychloride, copper salts, cymoxanil, cyproconazole, cyprodinil (CGA 219417), diclomezine, dicloran, difenoconazole, dimethomorph, diniconazole, diniconazole-M, dodine, edifenphos, epoxiconazole (BAS 480F), famoxadone, fenarimol, fenbuconazole, fenpiclonil, fenpropidin, fenpropimorph, fluazinam, fluquinconazole, flusilazole, flutolanil, flutriafol, folpet, fosetyl-aluminum, furalaxyl, hexaconazole, ipconazole, iprobenfos, iprodione, isoprothiolane, kasugamycin, kresoxim-methyl, mancozeb, maneb, mepronil, metalaxyl, metconazole, *S*-methyl 7-benzothiazolecarbothioate (CGA 245704), myclobutanil, neo-asozin (ferric methanearsonate), oxadixyl, penconazole, pencycuron, probenazole, prochloraz,

propiconazole, pyrifenox, pyroquilon, quinoxyfen, spiroxamine (KWG4168), sulfur, tebuconazole, tetraconazole, thiabendazole, thiophanate-methyl, thiram, triadimefon, triadimenol, tricyclazole, triticonazole, validamycin and vinclozolin; nematocides such as aldoxycarb and fenamiphos; bactericides such as streptomycin; acaricides such as amitraz, chinomethionat, chlorobenzilate, cyhexatin, dicofol, dienochlor, etoxazole, fenazaquin, fenbutatin oxide, fenpropathrin, fenpyroximate, hexythiazox, propargite, pyridaben and tebufenpyrad; and biological agents such as *Bacillus thuringiensis*, *Bacillus thuringiensis* delta endotoxin, baculovirus, and entomopathogenic bacteria, virus and fungi.

In certain instances, combinations with other fungicides or arthropodicides having a similar spectrum of control but a different mode of action will be particularly advantageous for resistance management.

Preferred for better control of plant diseases caused by fungal plant pathogens (e.g., lower use rate or broader spectrum of plant pathogens controlled) or resistance management are mixtures of a compound of this invention with a fungicide selected from the group cyproconazole, cyprodinil (CGA 219417), epoxiconazole, fenpropidin, fenpropimorph, flusilazole and tebuconazole. Specifically preferred mixtures (compound numbers refer to compounds in Index Tables A-D) are selected from the group: compound 8 and cyproconazole; compound 8 and cyprodinil; compound 8 and epoxiconazole; compound 8 and fenpropidin; compound 8 and fenpropimorph; compound 8 and flusilazole; compound 8 and tebuconazole; compound 42 and cyproconazole; compound 42 and cyprodinil; compound 42 and epoxiconazole; compound 42 and fenpropidin; compound 42 and fenpropimorph; compound 42 and flusilazole; compound 42 and tebuconazole.

Plant disease control is ordinarily accomplished by applying an effective amount of a compound of this invention either pre- or post-infection, to the portion of the plant to be protected such as the roots, stems, foliage, fruit, seeds, tubers or bulbs, or to the media (soil or sand) in which the plants to be protected are growing. The compounds can also be applied to the seed to protect the seed and seedling.

For plant disease control, rates of application for these compounds can be influenced by many factors of the environment and should be determined under actual use conditions. Foliage can normally be protected when treated at a rate of from less than 1 g/ha to 5,000 g/ha of active ingredient. Seed and seedlings can normally be protected when seed is treated at a rate of from 0.1 to 10 g per kilogram of seed.

Arthropod pests are controlled and protection of agronomic, horticultural and specialty crops, animal and human health is achieved by applying one or more of the compounds of this invention, in an effective amount, to the environment of the pests including the agronomic and/or nonagronomic locus of infestation, to the area to be protected, or directly on the pests to be controlled. Thus, the present invention further comprises a method for the control of foliar and soil inhabiting arthropods and nematode pests and protection of

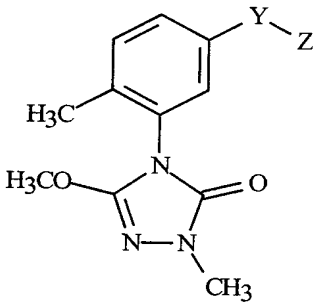
agronomic and/or nonagronomic crops, comprising applying one or more of the compounds of the invention, or compositions containing at least one such compound, in an effective amount, to the environment of the pests including the agronomic and/or nonagronomic locus of infestation, to the area to be protected, or directly on the pests to be controlled. A preferred method of application is by spraying. Alternatively, granular formulations of these compounds can be applied to the plant foliage or the soil. Other methods of application include direct and residual sprays, aerial sprays, seed coats, microencapsulations, systemic uptake, baits, eartags, boluses, foggers, fumigants, aerosols, dusts and many others. The compounds can be incorporated into baits that are consumed by the arthropods or in devices such as traps and the like.

For the control of arthropod pests, the compounds of this invention can be applied in their pure state, but most often application will be of a formulation comprising one or more compounds with suitable carriers, diluents, and surfactants and possibly in combination with a food depending on the contemplated end use. A preferred method of application involves spraying a water dispersion or refined oil solution of the compounds. Combinations with spray oils, spray oil concentrations, spreader stickers, adjuvants, other solvents, and synergists such as piperonyl butoxide often enhance compound efficacy.

The rate of application required for effective control will depend on such factors as the species of arthropod to be controlled, the pest's life cycle, life stage, its size, location, time of year, host crop or animal, feeding behavior, mating behavior, ambient moisture, temperature, and the like. Under normal circumstances, application rates of about 0.01 to 2 kg of active ingredient per hectare are sufficient to control pests in agronomic ecosystems, but as little as 0.001 kg/hectare may be sufficient or as much as 8 kg hectare may be required. For nonagronomic applications, effective use rates will range from about 1.0 to 50 mg/square meter but as little as 0.1 mg/square meter may be sufficient or as much as 150 mg/square meter may be required.

The following TESTS demonstrate the control efficacy of compounds of this invention on specific pathogens. The pathogen pest control protection afforded by the compounds is not limited, however, to these species. See Index Tables A-D for compound descriptions. The following abbreviations are used in the Index Tables which follow: Ph = phenyl. The abbreviation "Ex." stands for "Example" and is followed by a number indicating in which example the compound is prepared.

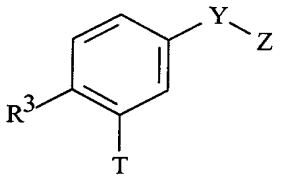
INDEX TABLE A



Cmpd No.	Y	Z	mp (°C)
1	-O-	3-(3,5-diCF_3-Ph)-1,2,4-thiadiazol-5-yl	123-125
2	-O-	3-(3,5-diCl-Ph)-1,2,4-thiadiazol-5-yl	68-72
3	-CH_2O-N=C(CH_3)-	3-CF_3-Ph	78-80
4	-CH_2O-	Ph	oil*
5	-CH_2O-	CH_2Ph	oil*
6	-CH_2O-	CH_2CH_2Ph	oil*
14	-OCH_2-	Ph	84-87
15	-$OCH_2CH_2CH_2$-	Ph	98-100
16	-OCH_2CH_2-	Ph	oil*
17	-O-	6-(3-CF_3-Ph)-3-pyridazinyl	218-221
18	-O-	6-(2-F-PhO)-4-pyrimidinyl	54-57
19	-O-	Ph	115-116

* See Index Table D for ^{1}H NMR data.

INDEX TABLE B



Cmpd No.[a]	T	R^1	R^3	R^5	R^6	s	Y^a	Z	mp (°C)
7 (Ex. 1, Step D)	T^3	CH_3	CH_3	CH_3	-	-	-CH_2O-N=C(CH_3)-	3-CF_3-Ph	oil*
8	T^4	CH_3	CH_3	CH_3	H	-	-CH_2O-N=C(CH_3)-	3-CF_3-Ph	oil*
9	T^3	CH_3	CH_3	CH_3	-	-	-CH_2O-N=C(CH_3)-	4-CF_3-2-pyridinyl	oil*
10 (Ex. 2, Step C)	T^2	CH_3	CH_3	CH_3	-	1	-CH_2O-N=C(CH_3)-	3-CF_3-Ph	oil*
11	T^4	CH_3	CH_3	CH_3	H	-	-CH_2O-N=C(CH_3)-	4-CF_3-2-pyridinyl	112-115

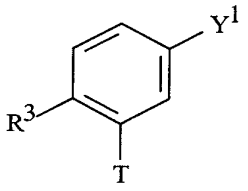
Cmpd No.[a]	T	R^1	R^3	R^5	R^6	s	Y[a]	Z	mp (°C)
20	T^3	CH_3	CH_3	CH_3	-	-	-C≡C-	Ph	78-82
21	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3,5-diCl-Ph	108-110
22	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-$Si(CH_3)_3$	oil*
23	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-OCF_3-Ph	oil*
24	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-F-Ph	oil*
25	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-Cl-Ph	oil*
26	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-Br-Ph	oil*
27	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	2-CH_3-Ph	oil*
28	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-CH_3-Ph	oil*
29	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	4-CH_3-Ph	oil*
30	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	4-CF_3-Ph	oil*
31	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	2-CF_3-Ph	oil*
32	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)C(=N-OCH_3)-$	4-F-Ph	95-97
33	T^3	CH_3	CH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)C(=N-OCH_3)-$	3-CF_3-Ph	63-65
34	T^3	CH_3	Cl	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-CF_3-Ph	oil*
35	T^3	CH_3	OCH_3	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-CF_3-Ph	106-108
36	T^3	CH_3	F	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-CF_3-Ph	oil*
37[b]	T^3	CH_3	F	CH_3	-	-	$-CH_2O-N=C(CH_3)-$	3-CF_3-Ph	oil*
38	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)C(=N-OCH_3)-$	4-F-Ph	112-114
39	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)C(=N-OCH_3)-$	3-CF_3-Ph	131-132
40	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3,5-diCl-Ph	124-125
41	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-$Si(CH_3)_3$	oil*
42	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-OCF_3-Ph	oil*
43	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-F-Ph	oil*
44	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-Cl-Ph	oil*
45	T^4	CH_3	Cl	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-CF_3-Ph	98-100
46	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-CH_3-Ph	oil*
47	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	4-CH_3-Ph	oil*
48	T^4	CH_3	OCH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-CF_3-Ph	oil*
49	T^4	CH_3	F	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-CF_3-Ph	87-89
50	T^4	CH_3	Br	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-CF_3-Ph	oil*
51	T^4	CH_3	I	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-CF_3-Ph	118-120
52	T^4	CH_3	CH_3	CH_3	H	-	$-CH_2O-N=C(CH_3)-$	3-I-Ph	oil*

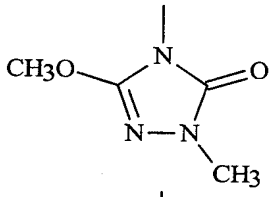
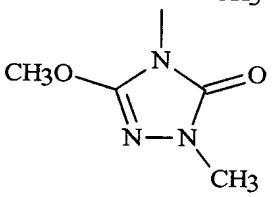
[a] E isomers unless indicated otherwise.

[b] Z isomer at T^3.

* See Index Table D for ^1H NMR data.

INDEX TABLE C



Cmpd No.[c]	T	R^1	R^3	R^5	R^6	s	Y^1	mp (°C)
12 (Ex. 1, Step C)	T^3	CH_3	CH_3	CH_3	-	-	CH_2Br	oil*
13 (Ex. 2, Step B)	T^2	CH_3	CH_3	CH_3	-	1	CH_2Br	oil*
53	T^3	CH_3	Cl	CH_3	-	-	CH_2Br	*
54	T^3	CH_3	OCH_3	CH_3	-	-	CH_2Br	*
55	T^3	CH_3	F	CH_3	-	-	CH_2Br	*
56	T^4	CH_3	Br	CH_3	H	-	CH_2Br	*
57	T^4	CH_3	I	CH_3	H	-	CH_2Br	*
58		-	CH_3	-	-	-	OH	*
59		-	CH_3	-	-	-	CH_2Br	*

[c] E isomer for T^2, T^3 or T^4 unless indicated otherwise.

* See Index Table D for ^1H NMR data.

INDEX TABLE D

Cmpd No.	^1H NMR Data ($CDCl_3$ solution unless indicated otherwise)[d]
4	δ 2.22 (s, 3H), 3.46 (s, 3H), 3.93 (s, 3H), 5.05 (s, 2H), 6.95 (m, 3H), 7.30-7.50 (m, 4H), 7.40 (m, 1H)
5	δ 2.21 (s, 3H), 3.45 (s, 3H), 3.93 (s, 3H), 4.55 (s, 2H), 4.56 (s, 2H), 7.20 (s, 1H), 7.25-7.30 (m, 7H)
6	δ 2.19 (s, 3H), 2.92 (t, 2H, J=7.0), 3.46 (s, 3H), 3.69 (t, 2H, J=7.0), 3.93 (s, 3H), 4.51 (s, 2H), 7.10-7.30 (m, 8H)
7	δ 2.19 (s, 3H), 2.27 (s, 3H), 3.86 (s, 3H), 4.04 (s, 3H), 5.23 (s, 2H), 7.15 (d, 1H, J=1.7Hz), 7.25 (m, 1H), 7.37 (dd, 1H, J=1.7, 7.3Hz), 7.5 (m, 1H), 7.6 (d, 1H, J=7.8Hz), 7.84 (m, 1H), 7.89 (d, 1H, J=0.5)
8	δ 2.20 (s, 3H), 2.30 (s, 3H), 2.90 (d, 3H), 3.90 (s, 3H), 5.20 (s, 2H), 6.80 (br s, 1H), 7.20-7.40 (m, 6H), 7.80 (m, 2H)
9	δ 2.19 (s, 3H), 2.36 (s, 3H), 3.87 (s, 3H), 4.04 (s, 3H), 5.28 (s, 2H), 7.17 (s, 1H), 7.25 (m, 1H), 7.40 (m, 1H), 7.45 (m, 1H), 8.15 (s, 1H), 8.74 (d, 1H, J=5.2)

Cmpd No.	^{1}H NMR Data ($CDCl_3$ solution unless indicated otherwise)[d]
10	δ 2.19 (s, 3H), 2.26 (s, 3H), 3.69 (s, 3H), 3.80 (s, 3H), 5.22 (s, 2H), 7.17 (s, 1H), 7.25 (m, 1H), 7.5 (m, 1H), 7.6 (m, 2H), 7.8 (m, 1H), 7.91 (d, 1H, J=0.5)
12	δ 3.9 (s, 3H), 4.1(s, 3H), 4.5 (s, 2H), 7.1-7.2 (m, 1H), 7.2-7.3 (m, 1H), 7.45(s, 1H)
13	δ 3.7(s, 3H), 3.8 (s, 3H), 4.45 (s, 2H), 7.1 (s, 1H), 7.2-7.3 (m, 2H), 7.6 (s, 1H)
16	δ 2.12 (s, 3H), 3.08 (t, 2H, J=7.1), 3.44 (s, 3H), 3.93 (s, 3H), 4.10-4.20 (m, 2H), 6.71 (s, 3H), 6.89 (m, 1H), 7.20-7.40 (m, 6H)
22	δ 0.03 (s, 9H), 2.19 (s, 3H), 2.26 (s, 3H), 3.86 (s, 3H), 4.04 (s, 3H), 5.20 (s, 2H), 7.15 (s, 1H), 7.25-7.40 (m, 3H), 7.50-7.80 (m, 3H)
23	δ 2.20 (s, 3H), 2.25 (s, 3H), 3.85 (s, 3H), 4.05 (s, 3H), 5.20 (s, 2H), 7.15 (s, 1H), 7.20-7.40 (m, 4H), 7.50 (s, 1H), 7.60 (m, 1H)
24	δ 2.20 (s, 3H), 2.25 (s, 3H), 3.85 (s, 3H), 4.05 (s, 3H), 5.20 (s, 2H), 7.00 (m, 1H), 7.15 (s, 1H), 7.20-7.40 (m, 5H)
25	δ 2.20 (s, 3H), 2.25 (s, 3H), 3.85 (s, 3H), 5.04 (s, 3H), 5.20 (s, 2H), 7.15 (s, 1H), 7.20-7.40 (m, 4H), 7.50 (m, 1H), 7.60 (s, 1H)
26	δ 2.19 (s, 3H), 2.22 (s, 3H), 3.86 (s, 3H), 4.04 (s, 3H), 5.21 (s, 2H), 7.15 (m, 1H), 7.20-7.50 (m, 4H), 7.60 (m, 1H), 7.80 (m, 1H)
27	δ 2.19 (s, 3H), 2.20 (s, 3H), 3.86 (s, 3H), 4.05 (s, 3H), 5.18 (s, 2H), 7.10-7.30 (m, 6H), 7.40 (m, 1H)
28	δ 2.18 (s, 3H), 2.24 (s, 3H), 2.36 (s, 3H), 3.85 (s, 3H), 4.04 (s, 3H), 5.21 (s, 2H), 7.10-7.50- (m, 7H)
29	δ 2.19 (s, 3H), 2.23 (s, 3H), 2.35 (s, 3H), 3.86 (s, 3H), 4.04 (s, 3H), 5.20 (s, 2H), 7.15 (m, 1H), 7.20-7.50 (m, 4H)
30	δ 2.19 (s, 3H), 2.26 (s, 3H), 3.86 (s, 3H), 4.04 (s, 3H), 5.23 (s, 2H), 7.16 (s, 1H), 7.26 (m, 1H), 7.36 (m, 1H), 7.60 (m, 2H), 7.80 (m, 2H)
31	δ 2.20 (s, 3H), 2.21 (s, 3H), 3.87 (s, 3H), 4.05 (s, 3H), 5.19 (s, 2H), 7.10 (s, 1H), 7.20-7.40 (m, 3H), 7.40-7.60 (m, 2H), 7.70 (m, 1H)
34	δ 2.28 (s, 3H), 3.88 (s, 3H), 4.05 (s, 3H), 5.24 (s, 2H), 7.26 (s, 1H), 7.40-7.50 (m, 3H), 7.60 (m, 1H), 7.80 (m, 1H), 7.90 (m, 1H)
36	δ 2.28 (s, 3H), 3.89 (s, 3H), 4.09 (s, 3H), 5.27 (s, 3H), 7.10 (m, 1H), 7.40-7.60 (m, 4H), 7.80 (s, 1H), 7.90 (s, 1H)
37	δ 2.29 (s, 3H), 3.90 (s, 3H), 4.05 (s, 3H), 5.22 (s, 2H), 7.00-7.10 (m, 1H), 7.40-7.60 (m, 3H), 7.80 (m, 1H), 7.90 (s, 1H)
41	δ 0.03 (s, 9H), 2.18 (s, 3H), 2.25 (s, 3H), 2.92 (d, 3H, J=4.8), 3.95 (s, 3H), 5.21 (s, 2H), 6.74 (br s, 1H), 7.14-7.50 (m, 5H), 7.60 (m, 1H), 7.80 (m, 1H)
42	δ 2.18 (s, 3H), 2.23 (s, 3H), 2.93 (m, 3H), 3.90 (s, 3H), 5.21 (s, 2H), 6.80 (br s, 1H), 7.20 (m, 1H), 7.20-7.40 (m, 4H), 7.50 (s, 1H), 7.60 (m, 1H)
43	δ 2.20 (s, 3H), 2.25 (s, 3H), 2.90 (m, 3H), 5.20 (s, 2H), 6.80 (m, 1H), 7.00 (m, 1H), 7.20-7.40 (m, 6H)
44	δ 2.18 (s, 3H), 2.21 (s, 3H), 2.93 (m, 3H), 3.95 (s, 3H), 5.20 (s, 2H), 6.80 (m, 1H), 7.13 (m, 1H), 7.20-7.40 (m, 4H), 7.50 (m, 1H), 7.60 (m, 1H)
46	δ 2.18 (s, 3H), 2.23 (s, 3H), 2.37 (s, 3H), 2.92 (m, 3H), 3.95 (s, 3H), 5.21 (s, 2H), 6.72 (br s, 1H), 7.20-7.50 (m, 7H)
47	δ 2.18 (s, 3H), 2.22 (s, 3H), 2.35 (s, 3H), 2.92 (m, 3H), 3.95 (s, 3H), 5.20 (s, 2H), 6.70 (br s, 1H), 7.10 (m, 3H), 7.20-7.30 (m, 2H), 7.50 (m, 2H)

Cmpd No.	^{1}H NMR Data ($CDCl_3$ solution unless indicated otherwise)[d]
48	δ 2.25 (s, 3H), 2.93 (m, 3H), 3.80 (s, 3H), 3.93 (s, 3H), 5.19 (s, 2H), 6.71 (br s, 1H), 6.94 (d, 1H, J=8.6), 7.30-7.50 (m, 4H), 7.50 (m, 1H), 7.80 (m, 1H), 7.90 (s, 1H)
50	δ 2.27 (s, 3H), 2.96 (d, 3H, J=5.1), 3.96 (s, 3H), 5.21 (s, 2H), 6.80 (br s, 1H), 7.20 (m, 1H), 7.35 (m, 1H), 7.50 (m, 1H), 7.60 (m, 2H), 7.80 (m, 1H), 7.88 (s, 1H)
52	δ 2.18 (s, 3H), 2.19 (s, 3H), 2.92 (s, 3H), 3.95 (s, 3H), 5.20 (s, 2H), 6.80 (br s, 1H), 7.00-7.30 (m, 3H), 7.35 (m, 1H), 7.60 (m, 1H), 7.65 (m, 1H), 7.98 (m, 1H)
53	δ 3.89 (m, 3H), 4.08 (s, 3H), 4.46 (s, 2H), 7.24 (m, 1H), 7.4 (m, 2H)
54	δ 3.79 (s, 3H), 3.86 (s, 3H), 4.05 (s, 3H), 4.49 (s, 2H), 6.90 (d, J=8.4, 1H), 7.29 (d, J=2.3, 1H), 7.43 (dd, J=2.3 and 8.6, 1H)
55	δ 3.90 (s, 3H), 4.10 (s, 3H), 4.48 (s, 2H), 7.00-7.10 (m, 1H), 7.35 (m, 1H), 7.40 (m, 1H)
56	δ 3.89 (s, 3H), 4.08 (s, 3H), 4.44 (s, 2H), 7.19 (d, J=2.3, 1H), 7.3 (m, 1H), 7.50-7.70 (m, 2H)
57	δ 3.90 (s, 3H), 4.08 (s, 3H), 4.43 (s, 2H), 7.13 (m, 2H), 7.80 (m, 1H)
58	δ 2.05 (s, 3H), 3.49 (s, 3H), 3.92 (s, 3H), 6.53 (d, J=2.5, 1H), 6.60 (dd, J=2.5 and 8.5, 1H), 7.01 (d, J=8.5, 1H)
59	δ 2.20 (s, 3H), 3.45 (s, 3H), 3.95 (s, 3H), 4.45 (s, 2H), 7.20-7.40 (m, 3H)

[d] ^{1}H NMR data are in ppm downfield from tetramethylsilane. Coupling constants are indicated by J and reported in Hertz. Couplings are designated by (s)-singlet, (d)-doublet, (t)-triplet, (m)-multiplet, dd-doublet of doublets and (br s)-broad singlet.

BIOLOGICAL EXAMPLES OF THE INVENTION

Test compounds were first dissolved in acetone in an amount equal to 3% of the final volume and then suspended at a concentration of 200 ppm in purified water containing 250 ppm of the surfactant Trem® 014 (polyhydric alcohol esters). The resulting test suspensions were then used in Tests A-F. Spraying these 200 ppm test suspensions to the point of run-off on the test plants is the equivalent of a rate of 500 g/ha.

TEST A

The test suspension was sprayed to the point of run-off on wheat seedlings. The following day the seedlings were inoculated with a spore dust of Erysiphe graminis f. sp. tritici, (the causal agent of wheat powdery mildew) and incubated in a growth chamber at 20 °C for 7 days, after which disease ratings were made.

TEST B

The test suspension was sprayed to the point of run-off on wheat seedlings. The following day the seedlings were inoculated with a spore suspension of Puccinia recondita (the causal agent of wheat leaf rust) and incubated in a saturated atmosphere at 20 °C for 24 h, and then moved to a growth chamber at 20 °C for 6 days, after which disease ratings were made.

TEST C

The test suspension was sprayed to the point of run-off on rice seedlings. The following day the seedlings were inoculated with a spore suspension of Pyricularia oryzae

(the causal agent of rice blast) and incubated in a saturated atmosphere at 27 °C for 24 h, and then moved to a growth chamber at 30°C for 5 days, after which disease ratings were made.

TEST D

The test suspension was sprayed to the point of run-off on tomato seedlings. The following day the seedlings were inoculated with a spore suspension of Phytophthora infestans (the causal agent of potato and tomato late blight) and incubated in a saturated atmosphere at 20 °C for 24 h, and then moved to a growth chamber at 20 °C for 5 days, after which disease ratings were made.

TEST E

The test suspension was sprayed to the point of run-off on grape seedlings. The following day the seedlings were inoculated with a spore suspension of Plasmopara viticola (the causal agent of grape downy mildew) and incubated in a saturated atmosphere at 20 °C for 24 h, moved to a growth chamber at 20 °C for 6 days, and then incubated in a saturated atmosphere at 20 °C for 24 h, after which disease ratings were made.

TEST F

The test suspension was sprayed to the point of run-off on cucumber seedlings. The following day the seedlings were inoculated with a spore suspension of *Botrytis cinerea* (the causal agent of gray mold on many crops) and incubated in a saturated atmosphere at 20 °C for 48 h, and moved to a growth chamber at 20 °C for 5 days, after which disease ratings were made.

Results for Tests A-F are given in Table A. In the table, a rating of 100 indicates 100% disease control and a rating of 0 indicates no disease control (relative to the controls). A dash (-) indicates no test results. ND indicates disease control not determined due to phytotoxicity. # indicates significant activity.

Table A

Cmpd No.	Test A	Test B	Test C	Test D	Test E	Test F
1	98#	0	0	0	-	0
2	83	85#	32	100#	23*	70#
3	100#	100#	100#	47	20*	95#
4	98#	99#	86#	100#**	7*	-
5	87#	100#	53	26	19*	0
6	87#	94#	0	47	33*	0
7	100#	97#	97#	0	-	49
8	97#	99#	74	35	31*	45
9	99#	100#	97#	26	14*	49
10	100#	99#	91#	0	13*	0
11	95#	100#	53	26	-	0
14	90#	27	0	0	40*	0
15	83#	85#	53	77#	13*	0
16	99#	99#	91#	0	6*	0
17	92#	0	0	-	20*	0

Cmpd No.	Test A	Test B	Test C	Test D	Test E	Test F
18	95#	0	0	100#	7*	0
19	90#	97#	0	0	13*	0
20	97#	28	0	85#	29*	0
21	98#	0	74	43	24*	98#
22	99#	67#	53	92#	55#*	83
23	100#	97#	91#	0	17*	83
24	97#	0	91#	85#	30*	0
25	98#	27	91#	85#	37*	0
26	94#	27	74	45	76#*	98#
27	99#	27	0	45	18*	94
28	98#	27	53	23	34*	0
29	94#	85#	53	23	26*	0
30	99#	97#	53	0	40*	0
31	100#	99#	53	44	7*	43
32	100#	86#	0	92#	90#*	0
33	100#	85#	74	43	0*	0
34	96#	0	0	0	15*	45
35	90#	27	0	0	9*	99#
36	95#	86#	0	0	29*	7
37	95#	0	0	0	-	0
38	99#	100#	53	75#	16*	43
39	98#	0	53	20	5*	0
40	99#	97#	53	61	82#*	94
41	98#	100#	0	20	24*	98#
42	99#	100#	94#	92#	24*	48
43	97#	100#	86#	92#	17*	83
44	99#	100#	100#	75#	28*	98#
45	100#	0	0	23	14*	94
46	99#	100#	53	23	20*	99#
47	99#	100#	53	23	50#*	98#
48	96#	0	0	0	4*	99#
49	99#	99#	0	0	5*	82
50	97#	28	0	0	5*	7
51	95#	0	0	0	5*	7
52	95#	100#	74	63	29*	7

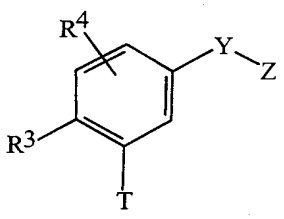
* Tested at 10 ppm.

** 20% plant injury also noted.

CLAIMS

What is claimed is:

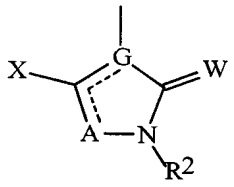
1. A compound selected from Formula I, *N*-oxides and agriculturally suitable salts thereof,



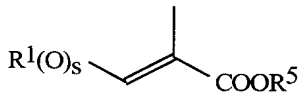
I

wherein:

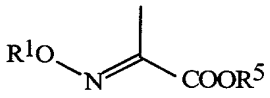
T is



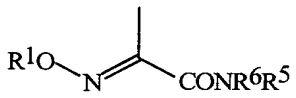
T1 ,



T2 ,



T3 or



T4 ;

X is OR^1, $S(O)_mR^1$ or halogen;

A is O, S, N, NR^5 or CR^7;

G is C or N; provided that when G is C, A is O, S or NR^5 and the floating double bond is attached to G; and when G is N, A is N or CR^7 and the floating double bond is attached to A;

W is O or S;

YZ is a group consisting of (a) 3 or more atoms independently selected from the group C, N, O, S, Si and Ge, provided that at least 2 of said atoms are C, and (b) additional atoms selected from H, F, Cl, Br and I;

R^1 is C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_2-C_4 alkylcarbonyl or C_2-C_4 alkoxycarbonyl;

R^2, R^5 and R^6 are each independently selected from the group H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_2-C_4 alkylcarbonyl and C_2-C_4 alkoxycarbonyl;

R^3 is halogen, CF_3, C_1-C_3 alkyl or C_1-C_3 alkoxy;

R^4 is H, halogen, CF_3, C_1-C_3 alkyl or C_1-C_3 alkoxy;

R^7 is H, halogen or methyl;

m is 0, 1 or 2; and

s is 0 or 1;

provided that

(a) when T is T^1, G is N, A is N, X is $S(O)_mR^1$ and m is 0; then the combination of Y and Z is other than alkyl, haloalkyl or alkoxy;

(b) when T is T^1, G is C and A is NR^5; then the combination of Y and Z is other than alkyl or alkoxy; and

(c) when T is T^1 and R^3 is halogen, then R^4 is hydrogen.

2. A compound of Claim 1 wherein

Y is -O-, $-(CH_2)_rO-$, $-O(CH_2)_r-$, $-CHR^{11}O-N=C(R^8)-$, a direct bond, $-(CH_2)_r-$, $-C(R^{11})=C(R^{11})-$, $-(CH_2)_rS(O)_m-$, $-C(R^8)=N-O-CHR^{11}-$, $-CHR^{11}SC(R^8)=N-$, $-C(R^{11})=N-N=C(R^{11})-$, $-CHR^{11}O-N=C(R^8)CH_2S-$, $-CHR^{11}O-N=C(R^8)CH_2O-$, $-C(R^{11})=N-N(CH_3)-$, $-CHR^{11}OC(R^8)=N-$, $-CHR^{11}OC(=S)NR^{11}-$, $-CHR^{11}SC(=S)NR^{11}-$, $-S(CHR^{11})_r-$, or $-CHR^{11}O-N=C(R^{11})C(=N-OR^{11})-$; and the directionality of the Y linkage is defined such that the moiety depicted on the left side of the linkage is bonded to the phenyl ring having the R^3 and R^4 substituents and the moiety on the right side of the linkage is bonded to Z;

Z is selected from

i) C_1-C_{10} alkyl, C_1-C_{10} haloalkyl or phenyl each optionally substituted with R^9 and optionally substituted with one or more R^{10};

ii) a ring selected from 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10};

iii) a naphthalene ring optionally substituted with R^9 and optionally substituted with one or more R^{10}; and

iv) a tetrahydronaphthalene ring optionally substituted with R^9 and optionally substituted with one or more R^{10};

R^8 is H, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 alkylthio, C_1-C_3 haloalkyl, C_2-C_3 alkenyl, C_2-C_3 alkynyl, cyclopropyl, cyano or NH_2;

R^9 is halogen; C_1-C_6 alkyl; C_1-C_6 haloalkyl; C_1-C_6 alkoxy; C_1-C_6 haloalkoxy; C_2-C_6 alkenyl; C_2-C_6 haloalkenyl; C_2-C_6 alkynyl; C_1-C_6 alkylthio; C_1-C_6 haloalkylthio; C_1-C_6 alkylsulfinyl; C_1-C_6 alkylsulfonyl; C_3-C_6 cycloalkyl; trimethylsilyl; $C(=O)R^{14}$; C_2-C_6 alkynyl substituted with trimethylsilyl or C_3-C_6 cycloalkyl; or phenyl or phenoxy, each phenyl or phenoxy optionally substituted with R^{12} and optionally substituted with one or more R^{13};

each R^{10} is halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, cyano or thiocyanato; or

R^9 and an R^{10} when attached to adjacent carbon atoms can be taken together as $-CH_2CH_2O-$ or $-OCH_2CH_2O-$;

each R^{11} is independently H, C_1-C_3 alkyl or cyclopropyl;

R^{12} is halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio, C_1-C_6 alkylsulfinyl, C_1-C_6 alkylsulfonyl, nitro, $C(=O)R^{14}$ or C_3-C_6 cycloalkyl;

each R^{13} is halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, cyano or thiocyanato;

R^{14} is H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy; and

r is 1, 2, 3 or 4.

3. A compound of Claim 2 wherein

T is T^1;

R^3 is methyl; and

Z is phenyl optionally substituted with R^9 and optionally substituted with one or more R^{10}; or a 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10}

4. A compound of Claim 3 wherein

A is N;

G is N;

W is O;

X is OR^1;

R^1 is methyl; and

R^2 is methyl.

5. A compound of Claim 2 wherein

T is T^2;

R^3 is methyl; and

Z is phenyl optionally substituted with R^9 and optionally substituted with one or more R^{10}; or a 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10}.

6. A compound of Claim 2 wherein

T is T^3;

R^3 is methyl; and

Z is phenyl optionally substituted with R^9 and optionally substituted with one or more R^{10}; or a 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10}.

7. A compound of Claim 2 wherein

T is T^4;

R^3 is methyl; and

Z is phenyl optionally substituted with R^9 and optionally substituted with one or more R^{10}; or a 5 or 6-membered aromatic heterocyclic ring, each heterocyclic ring containing 1 to 4 heteroatoms independently selected from the group nitrogen, oxygen, and sulfur, provided that each heterocyclic ring contains no more than 3 nitrogens, no more than 1 oxygen, and no more than 1 sulfur, each aromatic heterocyclic ring optionally substituted with R^9 and optionally substituted with one or more R^{10}.

8. The compound of Claim 7 which is selected from the group:

α-(methoxyimino)-*N*,2-dimethyl-5-[[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]benzeneacetamide and

α-(methoxyimino)-*N*,2-dimethyl-5-[[[[1-[3-(trifluoromethoxy)phenyl]ethylidene]amino]oxy]methyl]benzeneacetamide.

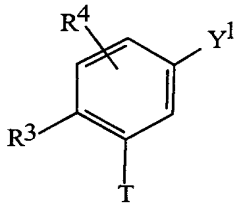
9. A fungicidal composition comprising a fungicidally effective amount of a compound of Claim 1 and at least one of a surfactant, a solid diluent or a liquid diluent.

10. A method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof, or to the plant seed or seedling, a fungicidally effective amount of a compound of Claim 1.

11. An arthropodicidal composition comprising an arthropodicidally effective amount of a compound of Claim 1 and at least one of a surfactant, a solid diluent or a liquid diluent.

12. A method for controlling arthropods comprising contacting the arthropods or their environment with an arthropodicidally effective amount of a compound of Claim 1.

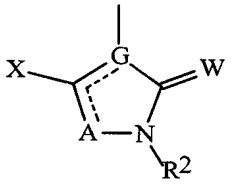
13. A compound selected from Formula II



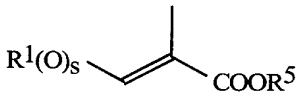
II

wherein

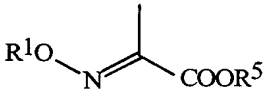
T is



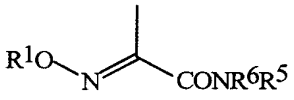
T^1 ,



T^2 ,



T^3 or



T^4 ;

X is OR^1, $S(O)_mR^1$ or halogen;

A is O, S, N, NR^5 or CR^7;

G is C or N; provided that when G is C, A is O, S or NR^5 and the floating double bond is attached to G; and when G is N, A is N or CR^7 and the floating double bond is attached to A;

W is O or S;

Y^1 is OH, SH, OSO_2CH_3, $OSO_2(4\text{-}CH_3\text{-}Ph)$, CHO, $CH(R^{11})OH$, $CH(R^{11})Cl$, $CH(R^{11})Br$, $CH(R^{11})I$, $CH(R^{11})OSO_2CH_3$ or $CH(R^{11})OSO_2(4\text{-}CH_3\text{-}Ph)$;

R^1 is C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_2-C_4 alkylcarbonyl or C_2-C_4 alkoxycarbonyl;

R^2, R^5 and R^6 are each independently selected from the group H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_2-C_4 alkylcarbonyl and C_2-C_4 alkoxycarbonyl;

R^3 is halogen, CF_3, C_1-C_3 alkyl or C_1-C_3 alkoxy;

R^4 is H, halogen, CF_3, C_1-C_3 alkyl or C_1-C_3 alkoxy;

R^7 is H, halogen or methyl;

R^{11} is H, C_1-C_3 alkyl or cyclopropyl;

m is 0, 1 or 2; and

s is 0 or 1;

provided that when A is N, G is N, X is $S(O)_mR^1$ and m is 0, then Y^1 is other than haloalkyl.

INTERNATIONAL SEARCH REPORT

Interna ıl Application No
PCT/US 98/24265

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 C07D249/12 A01N43/653 C07D417/12 C07C251/40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 C07D A01N C07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 96 36615 A (DU PONT ;BROWN RICHARD JAMES (US); SUN KING MO (US); FRASIER DEBOR) 21 November 1996 see the whole document ---	2-13
Y	US 5 194 662 A (BRAND SIEGBERT ET AL) 16 March 1993 cited in the application see table IV ---	2-13
Y	US 5 286 750 A (MUELLER BERND ET AL) 15 February 1994 cited in the application see the whole document ---	2-13
Y	EP 0 178 826 A (ICI PLC) 23 April 1986 cited in the application see the whole document -----	2-13

☐ Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
18 February 1999	03. 03. 99

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Lauro, P

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Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 98/24265

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 1
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

The subject-matter of claim 1 is obscure due to the unclear definition of the group Y-Z

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern... al Application No
PCT/US 98/24265

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